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ABSTRACT

This guidebook is designed to assist concerned Michigan citizens, local governments, conservation organizations, landowners, and others in their efforts to initiate wetlands protection activities. Chapter 1 focuses on wetland functions, values, losses, and the urgent need to protect wetland resources. Chapter 2 discusses wetland identification and delineation. Chapter 3 considers state, federal, and local regulatory programs. Chapter 4 presents information and strategies regarding citizen involvement. Chapter 5 discusses non-regulatory approaches to wetland protection. Chapter 6 focuses on methods and mechanisms for educating various target audiences. Chapter 7 addresses selected issues regarding wetlands protection. The appendices contain materials that have been compiled to serve as background materials for the text: (1) Michigan organizations involved in wetland protection; (2) Goemaere-Anderson Wetland Protection Act; (3) Goemaere-Anderson Wetland Protection Act-Administrative Rules; (4) Sample, Michigan Department of Natural Resources Permit Application Listing; (5) State and Federal Wetlands Regulatory Agencies; and (6) Educational Materials. (MCO)

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Michigan Wetlands

Yours to Protect

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A Citizens' Guide to Local Involvement in Wetland Protection

Published by the Tip of the Mitt Watershed Council

Second Edition

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The purpose of this document is to promote the protection and enhancement of wetlands in Michigan. As such, any part of this document may be copied and distributed in the effort to meet this goal. For additional copies of this guidebook, contact the Tip of the Mitt Watershed Council, or one of the organizations listed in Appendix A that service your geographic area.

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Michigan Wetlands

Yours to Protect

A Citizens' Guide to Local Involvement in Wetland Protection

Second Edition

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Introduction

In 1987, the Tip of the Mitt Watershed Council published the first edition of Michigan Wetlands: Yours to Protect. That guidebook was the compilation of experiences gained during a three year wetland protection project focusing on the northern Michigan counties of Charlevoix, Emmet, and Cheboygan.

Since then, while continuing its wetland protection work in northern Michigan, the Watershed Council has initiated and coordinated the Great Lakes Wetlands Policy Consortium and served as the coordinating body of the Michigan Wetlands Action Coalition. The Consortium, a bi-national group of environmental and conservation organizations, was instrumental in developing policy recommendations to increase wetland protection at all levels of government in the United States and Canada. As a direct result of the Consortium, the Coalition was initiated and has served to form a network of individuals and organizations to promote wetland protection in Michigan. This Second Edition of Michigan Wetlands: Yours to Protect builds on these efforts and translates the experiences gained into a tool that will serve to empower citizens across Michigan to get involved in wetland protection.

This guidebook is designed to assist concerned citizens, local governments, conservation organizations, landowners, and others in their efforts to initiate wetlands protection activities. Chapter One focuses on wetland functions and values, losses, and the urgent need to protect wetland resources. Chapter Two discusses wetland identification and delineation. Chapter Three considers state, federal, and local regulatory programs. Chapter Four presents information and strategies regarding citizen involvement. Chapter Five discusses nonregulatory approaches to wetland protection. Chapter Six focuses on methods and mechanisms for educating various target audiences. Chapter Seven addresses selected issues regarding wetlands protection. The appendices contain materials that have been compiled to serve as background materials for the text.

The Watershed Council hopes that you find the information presented here useful in your efforts to protect wetlands in your backyard and throughout Michigan. If you find that you need more information, consult the list of organizations working to protect wetlands in Appendix A and contact one of the organizations that serve your geographic area, or contact the Tip of the Mitt Watershed Council.

Good luck in your efforts to protect Michigan's wetland resource. In addition to the benefits you will enjoy, the future generations of Michiganians that benefit from the functions and values of Michigan's wetlands will appreciate your efforts.

* * *

Chapter One

A Resource Worth Protecting

- What is a Wetland?
- Wetland Types in Michigan
- Why Protect Wetlands?
- Wetland Losses

What is a Wetland?

Wetlands are unique ecosystems that serve as the transitional zone between upland and aquatic habitats. Michigan is fortunate to contain a diversity of wetland types ranging from broad expanses of coastal marsh to small isolated bogs. Although each wetland is unique, wetland areas are typically identified by three characteristics:

1) The presence of water at or near the land surface throughout the year or for some portion of the year (wetland hydrology);

2) The presence of distinctive soil types which develop under saturated conditions (hydric soils); and

3) The presence of plants adapted for living in these soils (hydrophytic vegetation).

These three characteristics serve as the scientific and regulatory basis for identifying wetlands. For a more in-depth analysis of wetland identification and delineation, see Chapter Two.

Wetland Types in Michigan

Michigan's diverse wetland resources can be classified into four major types: marshes, swamps, bogs, and fens. Each has its own unique set of chemical and physical characteristics, plants, and wildlife.

Marsh is a term that represents a broad array of wetlands that are unified primarily by the fact that they are ecosystems dominated by grass-like vegetation. Typical marsh plants include rushes, reeds, sedges, cattails, and grasses. They are wet areas which are periodically covered by standing or slow moving, neutral to alkaline water and are usually associated with ponds, streams, inland lakes, or the Great Lakes. Although some marshes occur on mineral substrates, marsh soils are usually nutrient rich and contain large amounts of organic matter.

Marshes are excellent habitats and breeding grounds for water birds such as ducks, geese, swans, bitterns, and herons. The common loon, bald eagle, and osprey also utilize marshes for feeding or nesting areas, as do numerous species of song birds. Marshes are also home to fur-bearing animals, such as muskrat and beaver, and are important spawning grounds for many fish species.

Interdunal wetlands are a type of marsh that deserves special note. Interdunal wetlands occur in swales between beach ridges, wind blown depressions, and small embayments along the Great Lakes shoreline. These wetlands depend on the Great Lakes for their water source. As such, their hydrologic regime fluctuates with Great Lakes water levels. Because of the highly variable ecosystem characteristics, interdunal wetlands support many endangered or threatened species such as the dwarf lake iris, Lake Huron tansy, or Houghton's goldenrod.

Sandra Planisek

Marshes are usually associated with surface water.

Swamps are simply wooded wetlands. Based on dominant vegetation, swamps can generally be divided into three different types: 1) a conifer swamp with tamarack, cedar, balsam fir and/or black spruce trees; 2) a hardwood swamp, with red maple, black ash, quaking aspen, white birch, American elm and/or balsam poplar; or 3) a shrub-scrub swamp, with tag alders, willows and/or red osier dogwood. In many cases, the distinctions between these vegetative types are not clear cut, as the dominant vegetation depends on the local climate and hydrologic regime.

Swamps are usually inundated or saturated with surface or groundwater periodically during the growing season. Some types of swamps, such as a red maple floodplain forest, are associated with lakes, rivers or streams; others are not. The soils in swamps are usually rich in nutrients and organic matter. This is due primarily to silt and organic matter deposits from flooding or the accumulation of organic matter as the swamp ages.

A swamp dominated by northern white cedar.

Swamps have high nutrient, energy, and biotic interchanges with upland and aquatic habitats. As a result, they are very important habitat for a wide array of wildlife throughout the year, including deer, bear, raccoons, bobcats, eagles, songbirds and other small animals.

Bogs are wetlands with peat soils, generally with a high water table yet no significant inflow or outflow, and support acid-loving (acidophilic) vegetation, especially mosses. Although bogs can form in a number of ways, the most common in Michigan is the development of a "quaking bog," whereby a lake basin is isolated from ground and surface water and a thick floating mat of peat (partially decomposed plant materials) forms around the edge of the basin and gradually overtakes it.

Sandra Planisek

Bogs are hydrologically separated from ground and surface water sources.

Although bog soils are high in organic content, they are exceedingly deficient in available plant nutrients. As a result, the biotic productivity is restricted in some trophic levels and the plants, animals, and microbes have many special adaptations. An example of a unique adaptation can be found in vegetation such as the pitcher plant and sundew, which attain nutrients by catching and "digesting" insects. Other vegetation adapted to the highly acidic and nutrient poor conditions include black spruce trees; shrubs such as leather-leaf, blueberries, and cranberries; sedges and cotton grasses; peat mosses; and many kinds of orchids (including the endangered white-fringed orchis). Bogs are generally not rich in wildlife, due to the low productivity and relative unpalatability of bog vegetation.

Fens are wetland systems that generally receive some drainage from surrounding mineral soils. In many respects, fens are transitional between marshes and bogs. Many fens contain characteristics typically associated with bogs, including a high water table, peat soils, and plants adapted to bogs. However, because they do receive mineral inputs from ground or surface water connections, they are slightly richer than bogs and are calcareous (alkaline) or only moderately acidic.

Fens receive minimal inputs from ground or surface water.

Because they are transitional ecosystems, fens can be extremely variable. On one end of the spectrum is a calcareous fen which receives water that has passed through mineral soils and is covered with grasses, sedges, or reeds (commonly referred to as a sedge, or wet meadow). On the other end of the spectrum is a poor fen, which due to the accumulation of peat and the gradual reduction in groundwater flow, is dominated by tamarack, bog birch, black spruce and other plant species typically associated with bogs. However, because it's connected to either groundwater or surface water, it would not be considered a true bog.

Why Protect Wetlands?

Wetlands are complex integrated ecosystems that provide many valuable functions. In Michigan, these functions become increasingly significant as we continue to lose wetlands. Many communities have begun to pay for what intact wetlands provide at no cost. The valuable ecological functions of wetlands and the aesthetically appealing open space they provide help to enhance the quality of life for Michigan residents and tourists. The myriad of wetland functions and values can be grouped into three general classes: Water Quality Maintenance, Fish and Wildlife Habitat, and Socio-Economic.

WATER QUALITY MAINTENANCE VALUES

A major function of wetlands is the preservation of water quality. In simple terms, wetlands protect water quality by removing polluting nutrients and sediments from surface and groundwater.

Excess inputs of nutrients such as phosphorus and nitrogen can cause increased algae growth and increase the rate of eutrophication in aquatic ecosystems. Wetlands retain or remove nutrients in four ways: 1) uptake by plant life, 2) adsorption into sediments, 3) deposition of detritus (organic materials), and 4) chemical precipitation. The most significant of these is the uptake of nutrients by plants which occurs primarily during the growing season, when aquatic systems are most sensitive to nutrients.

As sediments flow into a wetland from the surrounding watershed, they are deposited in wetlands and thereby reduce the siltation of lakes, rivers, and streams. A combination of wetland vegetation and generally flat topography serves to slow water flow and increase deposition. Because most wetland systems are oxygen poor, the detritus that is deposited is not oxidized. In this manner, wetlands serve as a relatively permanent sink for organic matter. In light of the concern for the global environment, this function of wetlands can help to fix carbon that would otherwise accumulate in the upper atmosphere and contribute to global warming. Furthermore, there is a strong tendency for heavy metals and toxic hydrocarbons to attach to the particles found in surface water runoff. Wetlands can trap these human induced pollutants. However, when the natural ability of wetlands to function as filters is overstressed from human inputs, other values that wetlands provide can be threatened.

Wetlands trap sediment and uptake nutrients from runoff.

Wetlands are found where the groundwater table intersects or is close to the land surface. They are usually sites of groundwater discharge, but some wetlands are found where recharge occurs. Discharge sites are important for providing high quality water for our lakes and streams. The recharge potential of a wetland varies according to a variety of factors, including wetland type, geographic location, substrate, and precipitation. In most cases, groundwater recharge areas are vulnerable to pollution, and the filtering capacity of the wetland serves to protect these aquifers.

FISH AND WILDLIFE HABITAT VALUES

Wetlands are among the most biologically productive ecosystems on earth. They also play a significant role in maintaining a high level of biological diversity. Some species spend their entire lives in wetlands, others take advantage of the biological productivity and feed or rear their young there. Simply put, wetlands provide critical habitat for wildlife.

Most freshwater fish are considered wetland dependent because they feed in wetlands or on food produced there. Wetlands serve as nursery grounds for the many important sport fish species that spawn in or near wetlands.

Like fish, many bird species are dependent on wetlands for migratory resting places, breeding or feeding grounds, or cover from predators. It is estimated that over one third of all bird species in North America rely on wetlands for one of these purposes.

Nearly all of Michigan's amphibians are wetland dependent, at least for breeding. Wetlands serve as the preferred habitat for many furbearing animals such as muskrats, beaver, otter, mink, and raccoon. In northern Michigan, ceder swamps are critical to white-tailed deer for many reasons, including winter browse (northern white cedar is the only food that can sustain deer in the absence of other foods), and important thermal cover during harsh winters.

Not surprisingly, wetland habitats are critical for the survival of threatened or endangered species. Over one third of all rare and endangered animal species in the United States are either located in wetland areas or depend on them. This is especially critical considering that wetlands comprise only about five percent of the conterminous United States. A few examples of Michigan's rare or threatened animals that rely on wetlands include the bald eagle, osprey, loon, and sandhill crane. Of the 238 total threatened and endangered plant species in Michigan, 91 of them are found in wetland habitats. Thus nearly 40% of Michigan's endangered plants reside in less than 15% percent of Michigan's surface area.

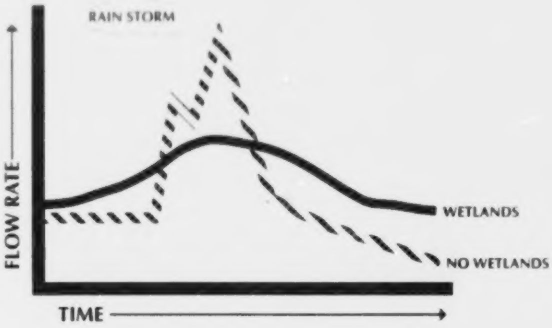
SOCIO-ECONOMIC VALUES

The socio-economic values discussed here are those that provide either economically valued savings or financial profit. These benefits include shoreline protection and flood storage, commercial activities, and aesthetic or recreational values.

In their natural condition, wetlands function as a barrier to erosion. The root systems of wetland plants stabilize soil at the water's edge and enhance soil accumulation at the shoreline. Wetland vegetation along shorelines reduces erosion by dampening wave action and slowing current speed.

Wetlands act as a hydrologic sponge, serving to temporarily store flood waters, thereby reducing flood peaks and protecting downstream property owners from flood damage. This function becomes increasingly important in urban areas where development has increased the rate and volume of runoff. In the late 1970's, the New England District of the U.S. Army Corps of Engineers concluded that natural wetland protection was the most cost effective means of floodwater control for the Charles River near Boston. As a result, they have acquired 8,500 acres of wetlands in the Charles River watershed.

Wetlands support many commercial activities. In addition to the revenue generated by hunting, fishing, and trapping wetland dependent species, wetlands naturally provide a variety of commercial products including blueberries, cranberries, and wild rice. Wetland grasses are hayed in many places for winter livestock feed. In other seasons, livestock graze directly in wetlands. Forested wetlands, particularly cedar swamps, can provide sustained yields of valuable timber if harvested with careful management and planning. Many wetlands also produce commercial peat, which is mainly used for horticulture and agriculture. In the early 1980's, it was reported that Michigan was one of five states that produced 75% of the peat in the United States. However, many commercial activities, such as peat mining, livestock grazing, or cranberry cultivation can severely degrade wetlands and a majority of their values.



Wetlands reduce flood peaks and flow rates.

In addition to these commercial activities, wetlands have been constructed and maintained to serve as wastewater treatment systems and to reclaim areas degraded by strip mining. In both cases, the created wetlands provided a cost-effective way to accomplish human goals.

The richness of the plant and animal communities found in wetlands make them some of Michigan's most beautiful natural environments. Wetlands provide valuable open space for visual and recreational enjoyment. In many cases throughout the state, wetlands have been shown to enhance the value of neighboring properties due to these factors. In addition to the hunting and fishing activities mentioned above, thousands of people enjoy wetlands for hiking, canoeing, birdwatching, nature photography, viewing wildflowers, and quiet reflection. Wetlands are indeed valued resources of Michigan residents and visitors.

Wetland Losses

Although the functions that wetlands provide make them our most valuable landforms, Michigan and the United States have lost alarming amounts of wetlands. Since European settlement, the conterminous United States has lost over 53% of its original wetland resource. In the Great Lakes Basin, only about 30% of the original wetlands remain intact. In the latest U.S. Fish and Wildlife report (1990), Michigan is reported to have lost 50% of its original wetlands. Although this estimate is more hopeful than the 70% loss figure that was released in the early 1980's, it still represents a loss of over 5,600,000 acres. In 1981, it was estimated that 6,500 acres were lost yearly in Michigan. Though wetland regulations have reduced this, the current figure is not known.

Larry Tracy Jr.

The beauty of the cardinal flower enhances our quality of life.

There have been no studies that document the overall ecosystem impacts of these significant wetland losses. However, one only needs to look at the increases in flood damage, the degraded water resources, the number of species that have gone extinct, the greatly reduced populations of waterfowl, and a myriad of other indicators of poor ecosystem health to get an idea of the impacts. Another way to visualize the impacts of wetland conversion in Michigan is to consider that we now have one half of the functions and values that wetlands provide. One half of the erosion control, one half of the spawning grounds, one half of the waterfowl habitat, and so on.

Each year, the Michigan Department of Natural Resources and the U.S. Army Corps of Engineers receive a greater number of permit applications to authorize activities that further degrade Michigan's wetland resource. Although this may be because more people know about the wetland regulations and therefore apply for permits, it still shows an intense development pressure on wetlands. On top of this, an uncounted number of wetlands are degraded each year in the state without any review by a regulatory agency. Given this, it is crucial that all of Michigan's residents become aware of the values of our wetland resources, the threats to those resources, and become empowered to take action to protect those resources. ▾ ▾ ▾

ST. JOHN S MARSH
WILDLIFE AREA
Dave Kenyon

Wetlands provide valuable recreation and open space.

Chapter Two

Wetland Identification and Delineation

- **Background**
- **The Three Basic Parameters: Vegetation, Soil, and Water**
- **Wetland Identification for the Advocate**

Background

Concern about wetland protection and state and federal wetland regulations have generated the need to identify and delineate wetland boundaries. Given that the applicability of wetlands regulations hinge on the delineation of wetlands, knowledge about proper identification of wetlands is important to the wetland protection advocate. This chapter is designed to provide a general background regarding the science and practice of wetland delineation. Although this chapter might seem quite technical, knowing the basics about wetland delineation will help citizens to understand and analyze the work of consultants and agency staff regarding wetland delineation.

In Michigan, there are numerous agencies principally involved with wetland identification and delineation, including the Michigan Department of Natural Resources (MDNR) in administering the Goemaere-Anderson Wetland Protection Act; the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (Corps), the U.S. Fish and Wildlife Service (FWS), and the Soil Conservation Service (SCS) in administering Federal regulations that impact wetlands; and the many local units of government that regulate wetlands. Although using slightly different methods, these agencies delineate wetlands in a fairly consistent manner.

In 1989, scientists from the four federal agencies involved with wetland regulation formally adopted a joint manual for identifying and delineating jurisdictional wetlands. This joint manual was developed in response to criticism from the regulated community regarding contradictions between the various individual federal delineation methods. The manual sought to develop a methodology that would enable agency staff to delineate wetlands based on the following regulatory definition:

> ...[wetlands are] those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. (Section 404 of the Clean Water Act, 33 CFR 328.3)

The method developed presents the concept of three mandatory criteria (hydric soils, hydrophytic vegetation, and wetland hydrology) to delineate wetland areas (with several exceptions). Although this manual came under attack by development interests and the Bush Administration in the summer of 1991, many feel it is the single most scientifically valid guideline for delineating vegetated wetlands.

Currently, the Michigan Department of Natural Resources delineates wetlands according to "The Michigan Department of Natural Resources Wetland Determination Draft Manual for Field Testing." The purpose of this manual is to formalize the process used to delineate wetlands as defined by state law:

Gary Williams

Accurate wetland delineation requires investigation of vegetation, soils, and hydrology.

> ...land characterized by the presence of water at a frequency and duration sufficient to support, and that under natural circumstances does support, wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh. (P.A. 203 of 1979)

The MDNR method looks primarily at vegetation communities with additional support for presence of wetland hydrology, particularly hydric soils. Most local wetland ordinances utilize either the definition used by Michigan state law, or something similar that is consistent with both federal and state definitions.

Although the regulatory definitions and delineation methods are essentially the same, the actual "line" between upland and wetland is not always clear. In areas of joint jurisdiction, state and federal agency staff sometimes disagree slightly on wetland boundaries. In addition, agency staff sometimes disagree with determinations conducted by consultants. Often, the resolution of disputed wetland boundaries requires multiple site visits with both parties. However, it is important to remember that the state and federal regulatory agencies have the ultimate authority over wetland boundaries.

The Three Basic Parameters: Vegetation, Soil, and Water

Wetlands possess three essential characteristics: 1) hydrophytic vegetation (plants adapted to living in saturated soil), 2) hydric soils (distinctive soil types that develop under saturated conditions), and 3) wetland hydrology (the presence of water at or near the surface for a specific period of time). These three criteria are inter-related, and with few exceptions, all three are present in wetland areas. The following is a condensed version of the wetland parameters as presented in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

HYDROPHYTIC VEGETATION

Hydrophytic vegetation is plant life that is adapted to grow in water or on a substrate that is at least periodically deficient in oxygen (anaerobic) as a result of water content. In cooperation with the Corps, EPA, and the SCS, the U.S. Fish and Wildlife Service has published a list of plant species that occur in wetlands for each state and region. The list separates plants into five basic categories, from plants which almost always occur in wetlands to plants which almost always occur in uplands. These five categories are:

Obligate wetland plants (OBL),
estimated probability of wetland
occurrence >99 %
Facultative wetland plants (FACW),
estimated probability of wetland
occurrence 67-99 %.
Facultative plants (FAC),
estimated probability of wetland
occurrence 34-66 %.
Facultative upland plants (FACU),
estimated probability of wetland
occurrence 33-1 %.
Obligate upland plants (UPL),
estimated probability of wetland
occurrence < 1 %.

Gary Williams

The showy lady's slipper (Cypripedium reginae) has a wetland indicator status of FACW.

An area meets the hydrophytic vegetation criteria when more than half of the dominant species from all strata (tree, sapling, shrub, vine, and herb), are composed of OBL, FACW, and FAC species. Dominant species are those which, when ranked in descending order of abundance and cumulatively totaled, immediately exceed 50 percent of the total dominance measure, plus any species comprising 20 percent or more of the total dominance measure for the stratum. There are several acceptable methods of determining dominance for each stratum, the most common being percent coverage.

HYDRIC SOILS

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. In general, hydric soils are flooded, ponded, or saturated for one week or more during the growing season. The growing season can be defined as the portion of the year when soil temperatures are above 41° Fahrenheit (or 5° Centigrade).

The U.S. Department of Agriculture has developed a basic system of soil classification. There have been 10,500 types of soils, called soils series, identified in the United States. Hydric soils are those soil series which are organic soils (those in which one half of the top 32 inches of the soil profile is made up of partly decomposed plant accumulations), and certain mineral soils with poor drainage characteristics or susceptibility to ponding and flooding (usually silty or clayey soils). The National Technical Committee for Hydric Soils has developed criteria for hydric soils and a list of the nation's hydric soils, of which there are approximately 2,100 in the United States. Sometimes, a list of hydric soils is developed locally for individual counties. Generally, the county list is most reliable due to recent updating and local knowledge.

In addition to the soil surveys, there are numerous field indicators to help determine if a soil would be considered hydric. The following three are the most commonly observed:

Mottled soils are a good indicator of hydric soil conditions.

1) **Organic soils:** Because hydric soils have little available oxygen, organic materials are not fully decomposed and tend to accumulate and form easily recognizable peats and mucks.

2) **Sulfidic material:** Sulfides are produced through a process of reduction reactions in anaerobic environments. Due to the anaerobic environment of saturated soil conditions, soils that contain sulfates are reduced to hydrogen sulfide and the odor of rotten eggs is emitted.

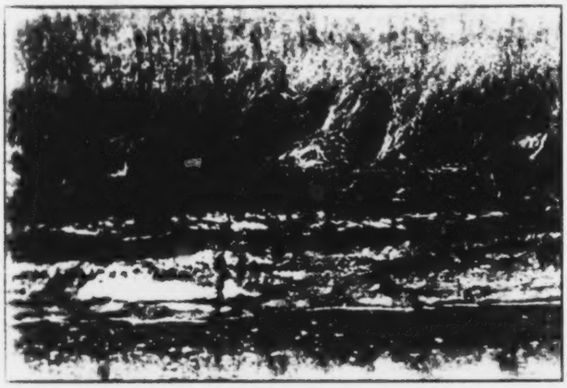
3) **Gleyed, low chroma, and low chroma/ mottled soils:** Soil color features known as mottling and gleying are often the best indicators of hydric soils, as they are strongly influenced by the frequency and duration of soil saturation. "Gleyed" soils are identified by bluish, greenish, or grayish colors. "Low chroma" soils are identified by a dark or dull quality. A "mottled" appearance refers to a combination of brightly colored splotches of soil in a dull soil matrix. Mottles form due to ion movement when soils are alternately saturated and unsaturated during the growing season.

WETLAND HYDROLOGY

Wetland hydrology refers to the hydrologic characteristics of areas that are periodically inundated or are saturated to the surface for at least a week during the growing season. The presence of soil saturation at or near the surface, or inundation for a week or more during the growing season, typically creates anaerobic conditions in the soil. Anaerobic conditions affect the types of plants that grow and the types of soils which form. In this sense, hydrophytic vegetation and hydric soils result from wetland hydrology. Accordingly, the presence of hydrophytic vegetation and hydric soils indicate wetland hydrology.

Of the three technical criteria for wetland identification, wetland hydrology is often the most difficult to determine and least exact. Numerous factors influence the wetness of an area, including precipitation, topography, soil permeability and stratigraphy, and plant cover. Wetland hydrology criteria include soil drainage and permeability characteristics, and height of the water table. According to current wetland definitions, an area can be considered to have wetland hydrology under a variety of circumstances ranging from surface inundation to the water table being 18 inches below the surface for a minimum of seven days during the growing season. The latter case is limited to low permeability (silty or clayey) soils which are able to "draw" water from 18 inches to the soil surface (this is due to the capillary action that results from the minute spaces between soil particles), thus creating anaerobic soil conditions in the upper part.

Evidence of wetland hydrology can come from a variety of sources. When available, recorded hydrologic data or aerial photographs can be useful. Perhaps the best evidence is the direct visual observation of inundation or soil saturation. Saturated soils may be detected by digging a hole at least 18 inches deep and observing the water table after it has had a chance to stabilize in the hole.

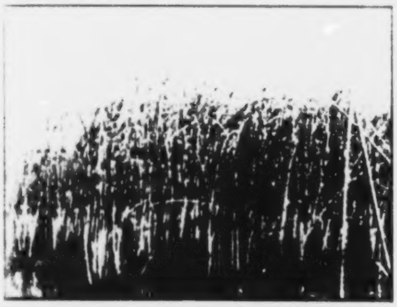


This eroded bank reveals a typical hydric soil profile.

In the absence of reliable hydrologic data or direct evidence of hydrology, field indicators have been developed for assessing wetland hydrology. In addition, these indicators are useful during the drier portions of the growing season when visual evidence of inundation or saturation is not possible. Some of the most common field indicators for hydrology appear below.

1) **Oxidized root channels (rhizopheres):** Some hydrophytic plants transport oxygen to their root zone. Although iron in anaerobic environments is usually in a reduced state, the oxygen that is transported through the root channels allows it to oxidize (rust) along the root or rhizome and form iron oxide concretions (orange or red-brown in color) along the length of the root channel.

2) **Water marks:** Water marks are commonly found on woody vegetation. They often occur as stains on bark or other fixed objects such as bridges or pilings. Plants and other vertical objects often have thin layers, coatings, or depositions of mineral or organic matter after inundation.



The extent of inundation is evident by the water marks on these bulrushes.

3) **Drift lines:** Drift lines consist of debris (remnants of vegetation, sediment, litter, etc.) that was deposited as a result of water movement. Most common adjacent to streams or other sources of water flow, debris is usually deposited parallel to the direction of water flow. However, because shallow water can extend beyond where the debris is deposited, drift lines do not represent the maximum level of inundation.

4) **Water-stained leaves:** Forested wetlands that are inundated earlier in the year will frequently have water-stained leaves on the forest floor. These leaves are generally grayish or blackish in appearance, darkened from being underwater for significant periods.

5) **Surface scoured areas:** Surface scouring occurs along floodplains where overbank flooding erodes sediments. The absence of leaf litter from the soil surface is also sometimes an indication of surface scouring.

6) **Morphological plant adaptations:** Many plants growing in wetlands have developed morphological adaptations in response to inundation or saturated soil conditions. Common examples in Michigan include buttressed tree trunks, multiple tree trunks, or shallow root systems.

EXCEPTIONS

Although these indicators of hydrophytic vegetation, hydric soils, and wetland hydrology are routinely used by consultants and federal and state agencies, it is important to note that there are several situations in which wetlands will not show direct evidence of all three criteria. These areas include wetlands that have been disturbed (human intervention may have removed one or more of the criteria), newly created wetlands (hydric soils or hydrophytic vegetation may not have had a chance to fully develop), interdunal swale wetlands (hydric soils or wetland hydrology may be difficult to identify), and wetlands on sloping glacial till (wetland hydrology may not be evident). In addition, there are some cases in which wetlands can become dominated by facultative upland species. Although this is not a comprehensive list, it does provide examples of the most common exceptions to the three parameter rule in Michigan according to federal delineation methods.

Wetland Identification for the Advocate

Citizens working to protect wetlands must have a clear understanding of what constitutes a wetland and be able to determine with some degree of accuracy if an area is indeed a wetland. This information is invaluable in recognizing and reporting wetland violations, responding to dredge and fill public notices, and educating others about wetland functions and values. The three parameters discussed above provide a technically sound approach to identifying wetlands. To become more familiar with the three basic characteristics of wetlands, take some time to visit wetlands in your area and investigate the indicators of hydric soils, hydrophytic vegetation, and wetland hydrology. If you want to become more skilled in wetland delineation, several consulting firms across the country offer wetland delineation training courses.

In many cases, collecting much of the evidence for these three parameters requires on-site investigation. In situations where wetlands are being degraded, or an individual has applied for a dredge and fill permit, permission for on-site investigation may not always be granted by landowners. In these cases, wetland advocates must be able to determine if an area is a wetland with off-site information.

A "windshield" review of the site can provide valuable information regarding wetland character.

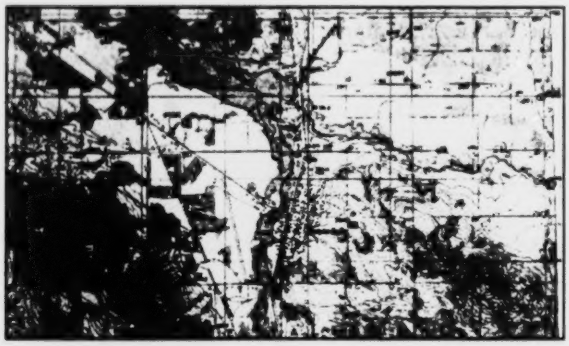
The off-site identification of wetlands requires access to detailed information about the site. In most cases, the adequate information about an area needed to make a preliminary assessment of wetland boundaries can be gleaned from viewing the subject property from public roads, public waters, or from adjacent lands ("windshield" delineations). In cases where access to adjacent properties is granted, soils, vegetation, and hydrology characteristics similar to the subject property may be present. In these cases, the wetland protection advocate can reliably document evidence of the three parameters. Soil pits should be dug to confirm wetland soils. Vegetation should be identified and the dominant vegetation should be analyzed in regards to its wetland indicator status. Evidence of wetland hydrology should also be noted.

However, in some cases, it will not be possible to attain even visual access to the property in question, and information about the wetland area must come from other sources ("desktop" delineations). Sources that can provide information directly related to indicators of the three parameters above are available throughout the state. Not only are these information sources invaluable to desktop delineations, but they are also extremely helpful in providing additional information for on-site and windshield delineations. Organizations and individuals concerned about wetland protection should have the following resources on hand.

1) **Michigan Resource Information System (MIRIS) Current Use Inventory Maps:** These maps are compiled by the Michigan Inventory Program of the Michigan Department of Natural Resources. The maps contain inventories of 60 different land use classifications of which approximately 12

relate to wetlands. Specific classes of wetlands include wooded, scrub/shrub, aquatic bed, emergent, and mud flats. In addition, there are other classes which are not classified as wetland in the MIRIS system, but more than likely would be considered jurisdictional wetlands. These include lowland hardwood and lowland conifer forest classifications. The wetland boundaries shown on these maps are meant to identify approximate boundaries. The inventory is being conducted by county, and not all of the areas of the state are currently completed. To see if your county has a completed MIRIS inventory, call your county planning and zoning department or regional planning office, or contact the MDNR, Land and Water Management Division, P.O. Box 30028, Lansing, MI 48909; (517) 373-1170.

2) **United States Geological Survey (USGS) Topographic Maps:** These maps are available in several different scales and provide landmark features including towns, roads, bridges, streams, buildings, water bodies, etc. that are not found commonly on road maps. The topographic lines and elevations are helpful in determining drainage patterns. These maps should not be used to delineate wetland boundaries, as the scale is too small to make the boundaries accurate, and not all wetlands are indicated. However, those areas that are marked as wetlands are almost undoubtedly wetlands. USGS maps may be available from the MDNR and through some local municipal and commercial sources, or from USGS, Eastern Distribution Branch, 1200 S. Eads Street, Arlington, VA 22202.



Like all maps, USGS topographic maps are useful, but also have their limitations.

3) **National Wetlands Inventory (NWI) Maps:** On these maps, wetlands are delineated based on features shown on aerial photographs and are displayed on USGS topographic maps or orthophotographic quadrangles. NWI maps are used to show the approximate extent of a wetland and its association with other wetland and nonwetland areas. Due to the scale of the aerial photography used and the lack of ground verification, NWI maps cannot be used as the sole basis for determining whether an area is a wetland. To order NWI maps, contact the National Wetlands Inventory, U.S. Fish and Wildlife Service, Monroe Building, Suite 101, 9720 Executive Center Drive, St. Petersburg, FL 33702; 1-800-USA-MAPS.

4) **Soil Conservation Service Soil Surveys:** The U.S. Department of Agriculture's Soil Conservation Service has conducted surveys of the soils in most counties of the state. The Soil Surveys contain a wealth of useful information, including soil maps, engineering suitability ratings, soil profile descriptions, soil properties, and hydrologic characteristics. This information is extremely valuable in determining if a hydric would occur on a site. To get soil surveys in your area, contact your local Soil Conservation District Office or the USDA Soil Conservation Service, Room 101, 1405 South Harrison Road, East Lansing, MI 48823; (517) 337-6702.

5) **Hydric Soils of the State of Michigan:** The Soil Conservation Service, in cooperation with the National Technical Committee for Hydric Soils, has compiled a list of hydric soils in Michigan. This list can be used in conjunction with county soil surveys to locate areas where wetlands might occur. These soils are also useful in determining the hydrologic status of an area. To obtain this publication, contact your local Soil Conservation District Office, or the National Technical Committee for Hydric Soils, Soil Conservation Service, P.O. Box 2890, Washington, D.C. 20013.

6) **Wetland Plants of the State of Michigan:** The U.S. Fish and Wildlife Service, as part of the National Wetlands Inventory Program, has compiled a wetland plant list for Michi-

MICHIGAN TREES

A collection of resources useful for identifying wetlands.

gan. This plant list includes a comprehensive list of the plants that occur in wetlands, including their wetland indicator status. This plant list is essential for determining in an area meets wetland vegetation criteria. To obtain this publication, contact the U.S. Fish and Wildlife Service, 302 Manly Miles Building, 1405 S. Harrison Road, East Lansing, MI 48823; (517) 337-6629, or the National Wetlands Inventory, U.S. Fish and Wildlife Service, Monroe Building, Suite 101, 9720 Executive Center Drive, St. Petersburg, FL 33702; 1-800-USA-MAPS.

7) **Plant Identification Guidebooks:** The precise identification of vegetation to the species level is necessary for wetland plant identification. For example, identifying a tree as a "maple" is not very helpful, as there are six species of maples in Michigan, with wetland indicator statuses ranging from FACW to FACU. There are numerous excellent plant guidebooks to choose from, including Michigan Trees by Barnes and Wagner, Ferns of Michigan by Billington, Michigan Wildflowers by Smith, and Michigan Flora by Voss. These and other fine resources are available at local book stores and other book retailers.

8) **Aerial Photography:** Although not as readily available to the public as the sources listed above, aerial photography or other remote sensing data can be very useful. Aerial photography can be particularly useful in identifying patterns of plant communities. Aerial photography can be obtained from a variety of sources, including your local Agricultural Stabilization and Conservation Service Office, local county agencies, and local pilots.

9) **Local Wetlands Maps and Inventories:** Many local organizations or municipal governments have developed wetland maps for their service area. Although they vary greatly in terms of scale and quality, they can serve as excellent resources.

In addition to these published resources, information about the site from people familiar with the area is also valuable. Adjacent landowners, or those who frequent the area for recreation purposes can provide information regarding flooding, plant or animal species found in the area, or recent construction activities. Although these resources are valuable, they can not serve as a reliable substitute for on-site investigation. ▾ ▾ ▾

Chapter Three

Wetland Regulations

- **Michigan's Wetland Regulatory Program**
- **The Federal Wetland Regulatory Program**
- **Local Regulations**

A myriad of regulatory agencies administer laws that impact wetlands in Michigan. This chapter focuses on the state program, the federal program, and provides a general discussion about local wetlands protection.

Michigan's Wetland Regulatory Program

THE GOEMAERE-ANDERSON WETLAND PROTECTION ACT

At the center of Michigan's wetland management program is the Goemaere-Anderson Wetlands Protection Act, P.A. 203 of 1979 (See Appendix B). The MDNR Land and Water Management Division administers the permit program. However, local governments may also adopt wetlands ordinances. In which case an application for a permit must also be filed with the local government.

Act 203 has several components. First, it establishes a state policy to protect the public against the loss of wetlands and makes explicit findings as to the benefits wetlands provide. Second, it establishes a permit program regulating some activities in wetlands which are above the ordinary high water mark of lakes and streams. Third, Act 203 provides enforcement language and sets maximum penalties for violations. Fourth, it explicitly authorizes regulation of wetlands by local governments.

Wetlands below the ordinary high water mark of a lake or stream are considered part of the lake or stream and are regulated by the same acts that regulate activities in lakes and streams. However, Act 203 criteria still apply to any permits that may be issued. The Inland Lakes and Streams Act, P.A. 346 of 1972, regulates dredge, fill or construction activities in inland lakes and streams and associated wetlands below the ordinary high water mark. The Great Lakes Submerged Lands Act, P.A. 247 of 1955, applies to the Great Lakes and Lake St. Clair, including adjacent wetlands.

The basis for regulation is clear: wetlands provide public benefits and no individual or group of individuals has the unrestricted right to alter the natural character of wetlands, as alterations may pollute the water, increase flood risks, lower lake or well water levels, destroy fish and wildlife habitat, or cause other public nuisances or harms.

Coverage

A permit under Act 203 is required to: 1) place fill material in a wetland; 2) dredge or otherwise remove soil or minerals from a wetland; 3) construct, operate or maintain any use or development in a wetland; or 4) drain surface water from a wetland. Furthermore, these requirements apply only to wetlands and activities that meet the following criteria: 1) wetlands as defined in Act 203; 2) wetlands not subject to a permit under Act 346 or Act 247; and 3) activities which are not specifically exempted in section 6 (2) of the Wetlands Act. Each of these requires some elaboration.

Definition

The definition of wetlands in the Act has two components. First, the Act defines wetland as "land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh."

> ***At the center of Michigan's wetland management program is the Goemaere-Anderson Wetlands Protection Act, P.A. 203 of 1979.***

Second, wetlands are separated according to whether or not they are contiguous to a waterbody. Contiguous wetlands are those found in close proximity to a lake, stream, pond, Great Lake, etc. and/or have a direct hydrological relationship with it. According to the administrative rules promulgated for the Act (See Appendix C), wetlands within 500 feet of an inland lake, stream, or pond and 1000 feet from a Great Lake are considered contiguous. Non-contiguous wetlands are isolated from lakes and streams hydrologically and, generally, geographically.

Activities in contiguous wetlands are regulated without regard to the size of the wetland because of their close relationship to lakes and streams. Non-contiguous wetlands, however, are regulated only if they are greater than five acres in size. In counties of less than 100,000 people, non-contiguous wetlands are not regulated at all until the MDNR wetland inventory is complete. In addition, as authorized by Section 2(g)(3), the MDNR can regulate wetlands of any size anywhere in the state if the wetland is determined to be essential to the preservation of natural resources of the state.

Exemptions

Activities in wetlands requiring Act 346 or Act 247 permits are not subject to an additional Act 203 permit, although Act 203 regulatory standards apply to the other state acts. In situations where two or more resource management acts apply, MDNR's Land and Water Management Division reviews one permit application under the criteria of all the applicable acts. This permit consolidation prevents unnecessary duplication of permits and review processes.

A variety of activities were exempted from the need for an Act 203 permit in section 6(2), although the Michigan Environmental Protection Act (MEPA), P.A. 127 of 1970, and other laws still apply. Although specific circumstances may exclude a particular situation, in general it can be said that the exempted activities include:

1) Some existing farming activities including minor drainage as defined by the Act;

2) Harvesting of forest products;

3) Some minor road improvements if adverse effects are minimized, width is not added, nor rerouting necessary;

4) Distribution power line construction and maintenance if effects are minimized;

5) Small gas or oil pipeline construction if adverse effects are minimized;

6) Iron and copper tailings basins and water storage areas;

7) Straightening, widening, or deepening of private agricultural drains and drains constructed or improved (not just designated) pursuant to the Drain Code of 1956, as amended, but only if necessary for agricultural production;

8) Drainage of non-contiguous wetlands (unless designated as necessary for preservation by the MDNR) if necessary for crop production, provided that any future non-farming uses will require a permit; and

9) Construction of farm roads, forestry roads, or temporary roads for moving mining or forestry equipment if effects are minimized.

General Permits

The MDNR may issue general permits on a state or county basis for a category of activities that are similar in nature and have only a minimal adverse individual or cumulative effect on the environment. In the current program, applications under a general permit still undergo a full review, including a site inspection or the presentation of site specific information, and must meet all regulatory standards. However, the general permit process allows the Department to reach a decision without public notice. This allows the MDNR to process minor applications more efficiently. The Department may also public notice an application that would otherwise qualify under a general permit category to allow more opportunity for public review and comment. General permits can be revoked or modified if adverse effects warrant the use of individual permits.

Permit Standards

Section 9 of the Goemaere-Anderson Wetland Protection Act details the specific standards that must be met before a permit is issued. Wetland advocates should become familiar with these permit standards, particularly when reviewing permit applications. According to Section 9, no permit can be issued unless the MDNR determines that: 1) the issuance of the permit is in the public interest, 2) the permit is necessary to realize the benefits derived from the activity, and 3) the activity is otherwise lawful.

In determining if the project is in the public interest, according to Section 9(2) MDNR field staff must consider the following:

1) The relative extent of the public and private need for the proposed activity;

2) The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity;

3) The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the uses to which the site is suited, including the benefits the

wetland provides;

4) The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed;

5) The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or fish or wildlife;

6) The size of the wetland being considered;

7) The amount of the remaining wetland in the general area;

8) Proximity to any waterway; and

9) Economic value, both public and private, of the proposed land change to the general area.

Furthermore, in considering a permit application, according to Section 9(3), the MDNR shall give serious consideration to findings of necessity for the proposed activity which have been made by other state agencies.

Section 9(4) specifically states that "a permit shall not be issued unless it is shown that an unacceptable disruption will not result to the aquatic resource." In addition, this section states that "a permit shall not be issued" unless the applicant also shows either that the proposed activity is "primarily dependent upon being located in the wetland" or that "a feasible and prudent alternative does not exist." This clearly shows that the burden of proof regarding these standards is placed upon the applicant.

Act 203 also authorizes the MDNR to require mitigation for unavoidable adverse impacts that otherwise meet the permit criteria described above. The mitigation guidelines listed in the Act's administrative rules seek no net loss of wetlands and mitigation projects that will replace the functions of the impacted wetland on or near the same site as the impacted wetland.

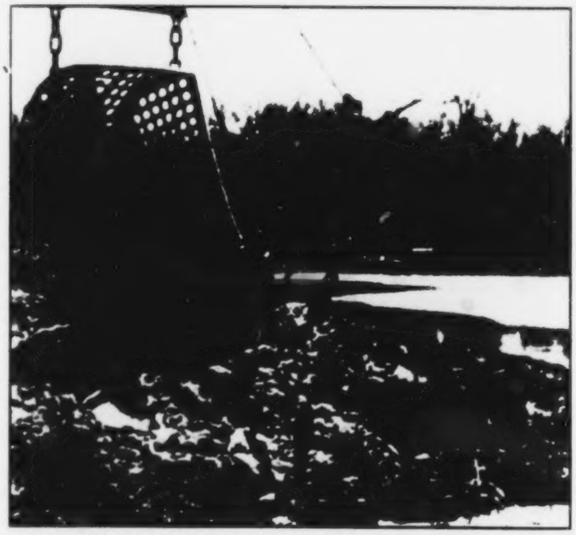
These permit standards serve as the justification for permit denial or approval. An understanding of these criteria will help to ensure that wetland advocates provide relevant input into the permitting process.

Enforcement

Failure to obtain a necessary permit, or a violation of a condition in a permit issued under the Act, is subject to civil and criminal penalties. Actions may be brought by either local prosecutors or by Michigan's Attorney General, and if found to be in violation, financial penalties, restoration, and/or jail sentences may be imposed by court verdict or order. The court may impose a civil fine of $10,000 per day of violation of the Act or violation of a court order, as well as ordering restoration.

Criminal penalties are slightly different. A person who violates the Act is punishable by a fine of up to $2,500. Willful or reckless violations of permit conditions by a person or corporate officer can result in a fine of not less than $2,500 nor more than $25,000 per day of violation, and/or imprisonment for not more than one year. A second such violation constitutes a felony, punishable by a fine of up to $50,000 per day of violation, and/or up to two years of imprisonment. In addition to these penalties, the court may order a person who violates this act to restore the affected wetland as nearly as possible to its original state.

The MDNR Land and Water Management Division and Law Enforcement Division investigate reports of possible violations and initiate enforcement actions. Federal agencies, or local governments with wetlands ordinances, may also choose to pursue enforcement action independent of any state action. Few viola-



State and federal laws are designed to regulate activities that would adversely impact wetlands.

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tions result in effective enforcement actions by the MDNR for a variety of reasons. Among them the lack of interest on behalf of some County Prosecutors to pursue violations, staffing constraints, and the Attorney General's workload. To increase the effectiveness of permitting programs and deter violations, wetland advocates must support proper enforcement of the Act as much as possible (See Chapter Four).

OTHER STATE LAWS AFFECTING WETLANDS

The role of state government in protecting Michigan's Natural Resources is mandated by the Michigan Constitution. Article 4, Section 53 provides that:

> The conservation and development of the natural resources of the state are hereby declared to be of paramount public concern in the interest of the health, safety and general welfare of the people. The legislature shall provide for the protection of the air, water, and other natural resources of the state from pollution, impairment and destruction.

Consistent with this mandate, there are many state regulations that affect wetlands in Michigan. A brief synopsis of these laws appears below.

The **Soil Erosion and Sedimentation Control Act** (P.A. 347 of 1972) is designed to protect the waters of the state from sedimentation caused by soil erosion. Permits are required for earth changes which disturb one or more acres of land or which are within 500 feet of a lake or stream, excluding plowing, tilling, mining and logging land uses. Before a permit is issued, the applicant must prepare a soil erosion and sedimentation control plan. Although the Act is administered by the MDNR Land and Water Management Division, permits are issued by counties or local agencies through programs approved by the MDNR.

The **Subdivision Control Act** (P.A. 288 of 1968) requires the approval of the Michigan Department of Natural Resources for the preliminary plat of any subdivision containing lots within or affected by a floodplain, and any subdivision involving land abutting a lake or stream where public rights may be affected. In many cases, wetlands are involved and are brought to the attention of the developer and appropriate agencies during the review process. Amendments to the Subdivision Control Act have been drafted and considered, but not introduced. The amendments would expand the MDNR's review to more directly include compliance with Acts 203, 347, 167 and other state statutes.

The **Michigan Environmental Protection Act** (MEPA) (P.A. 127 of 1970) places a duty on all individuals and organizations, whether private or public, to prevent or minimize environmental degradation which is caused or likely to be caused by their activities. Its requirements are in addition to those provided by any other law. MEPA prohibits any conduct which is likely to pollute, impair or destroy a lake, stream, wetland or other natural resource of the state unless the entity proposing or authorizing the activity can show: 1) there are no less harmful feasible and prudent alternatives; and 2) the "conduct is consistent with the promotion of the public health, safety and welfare in light of the state's paramount concern for the protection of its natural resources from pollution, impairment or destruction." Any person, organization or governmental body can go to court to enforce MEPA against any other person, organization or governmental body.

The **Michigan Endangered Species Act** (P.A. 203 of 1974) requires a permit for activities that could adversely impact threatened and endangered plant and animal species or their habitat. Since a large percentage of Michigan's endangered or threatened species reside in wetland areas, this Act can be useful in protecting critical habitats.

The **Flood Plain Regulatory Act** (P.A. 167 of 1968) assesses the location and extent of floodplains, streambeds, stream discharge and stage characteristics for the state's watercourses to minimize flood damage. A permit is required for any dredging, grading, or construction of a building within the 100-year floodplain of any river, stream, or lake.

The **Inland Lakes and Streams Act** (P.A. 346 of 1972) regulates lakes and streams and associated wetlands, excluding the Great Lakes and Lake St. Clair. The Act applies to artificial or natural lakes, rivers, streams, and creeks as defined by having definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water. This is interpreted by the MDNR to include intermittent or seasonal streams. Permits are required to dredge, fill, or construct or place structures below the ordinary high water mark and connect any waterway to an inland lake or stream.

The **Shorelands Protection and Management Act** (P.A. 245 of 1970) protects parts of the Great Lakes shoreline that are specifically designated by the Natural Resources Commission as high risk erosion, flood risk, and environmental areas. To be designated as such, environmental areas must be deemed necessary for the preservation and maintenance of fish and wildlife along Great Lakes shorelines and areas influenced by Great Lakes water levels.

The **Sand Dunes Protection and Management Acts** (P.A. 146 and P.A. 147 of 1989) provide protection for designated critical dune areas in Michigan, many of which contain interdunal wetland swales. The Act prohibits construction activities, vegetation removal, and other uses involving contour change that may increase erosion and decrease stability.

Public Act 347 of 1972 was enacted to prevent erosion events such as this.

COMMON LAW

It is possible that an alteration of a watercourse or wetland may alter streamflow, water quality, or runoff patterns so that certain common law doctrines may be relevant. Riparian, surface water, nuisance and trespass law may all apply. For instance, if a landowner drains a wetland or alters surface water flows so as to discharge an increased amount of water onto the property of another, the latter may sue for damage and an injunction preventing further discharge in excess of natural conditions.

The Federal Wetland Regulatory Program

The federal government's power to regulate discharges into the waters of the United States arises from authority conferred on Congress by the "Commerce Clause" contained in the U.S. Constitution. The phrase "waters of the United States" is broadly defined to include rivers, lakes, streams, ponds, and wetlands that are, or could be, used in interstate commerce. Since this criteria can be met if a particular wetland supports recreation activities, supports a commercial fishery, or provides habitat for any one of the more than 800 federally listed migratory birds, practically all wetlands in the country are considered "waters of the United States."

In Michigan, the MDNR and the U.S. Army Corps of Engineers (Corps) share the responsibility of administering and enforcing the federal wetlands regulatory program. The wetland regulatory authority and responsibilities of the Corps are based on Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act of 1977 (33 U.S.C. 1344). The Corps has the authority to bring enforcement actions, including criminal or civil actions, against violators of these laws. In its day to day administration of the federal wetlands program, the Corps is subject to oversight by the U.S. Environmental Protection Agency, which is ultimately responsible for the administration of the Clean Water Act.

SECTION 10 OF THE RIVERS AND HARBORS ACT OF 1899

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) regulates virtually all work in, over and under waters listed as "navigable waters of the United States." Some typical examples of projects requiring Section 10 permits include beach nourishment, boat ramps, breakwaters, bulkheads, dredging, filling or discharging material (such as sand, gravel or stone), groins and jetties, mooring buoys, piers (seasonal or permanent), placement of riprap for wave protection or streambank stabilization, boat hoists, pilings, and construction of marina facilities.

On the Great Lakes and other listed navigable waters of the U.S., the Corps' regulatory authority under section 10 extends to the ordinary high water mark.

For example, the ordinary high water mark elevation for Lakes Michigan-Huron is 580.8 feet (International Great Lakes Datum). During high water periods, it is the water's edge or ordinary high water mark, whichever is greater. On inland waterways listed as "navigable waters of the U.S." such as Lake Charlevoix, the Corps' regulatory jurisdiction extends landward to the ordinary high water mark and any adjacent wetlands.

SECTION 404 OF THE CLEAN WATER ACT

The Section 404 program—the primary federal program governing activities in wetlands—regulates the discharge of dredged or fill material into the waters of the United States including adjacent wetlands. It covers activities such as placement of fill material for impoundments, causeways, road fills, dams, dikes, and property protection devices such as riprap, groins, seawalls, breakwaters, revetments, and beach nourishment. Adjacent wetlands often extend landward beyond the ordinary high water mark. Therefore, in most situations Section 404 regulates a larger area than Section 10. The 404 program is intended to minimize adverse impacts by preventing the unnecessary loss of wetlands and other sensitive aquatic areas.

In the permit review process, the Corps analyzes the impacts of the proposed activity under a simultaneous review process demanded by three different sets of regulations: Regulatory Programs of the Corps (33 CFR Part 320-330), Corps Regulations for Implementing the National Environmental Policy Act (33 CFR Part 23), and, in 404 discharges, the Section 404(b)(1) Guidelines for the Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230).

Like Michigan's Wetland Protection Act, the federal wetlands permitting program requires application of a "public interest test." In determining the public interest, the Corps considers all factors of the proposed activity, including conservation, economics, aesthetics, general environmental concerns, historic values, fish and wildlife values, flood damage prevention, land use, navigation, recreation, water supply and water quality, energy needs, safety, food production and the needs and welfare of the public.

For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such a permit would not comply with the U.S. Environmental Protection Agency's 404(b)(1) guidelines. The Corps must prepare an environmental impact assessment and make a finding of whether an environmental impact statement should be prepared. The guidelines require that practicable alternatives to degrading a wetland be considered before a permit is approved. If the project does not require access or proximity to water, it is presumed that practicable alternatives are available. This is the "water dependency test."

The Guidelines also state that no permit should be issued if it would:

1) Cause violations of state water quality standards;

2) Violate toxic effluent standards;

3) Jeopardize federally listed endangered or threatened species;

4) Adversely affect municipal water supplies, plankton, fish, shellfish, wildlife and special aquatic sites (e.g. wetlands);

5) Adversely affect the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; and

6) Significantly reduce recreational, aesthetic and economic values.

Mitigation is an important element of both the Section 404(b)(1) guidelines and the public interest review. The term mitigation is defined as the lessening of adverse impacts though avoidance, minimization, and compensation. In situations where a project is water dependent, or sometimes even after strict applications of the permitting standards, a permit will be issued for a project that will have adverse wetland impacts. In such a situation, the lost wetland functions and values should be replaced.

Mitigation is sometimes inappropriately used to try to convince wetland managers to issue a wetland dredge and fill permit that would otherwise have an unacceptably disruptive impact on the aquatic resource. The Corps does not issue permits based on mitigation plans, but rather considers the total impact of the proposal without the possible compensation. However, the Corps does approve permits that include mitigation for losses they are convinced are unavoidable.

EPA's Section 404(b)(1) Guidelines

No permit to fill wetlands or other waters of the United States can be approved unless the project meets the 404(b)(1) guidelines. These regulations require the applicant to comply with four main requirements to ensure the proposed project does not have a significant or avoidable effect on the environment. The applicant has the burden of proof to demonstrate compliance with the 404(b)(1) guidelines.

1) Alternatives:

Prohibits issuance of a permit for projects where feasible, less environmentally damaging alternatives are available. For projects which would fill wetlands but do not depend upon wetlands in order to fulfill their basic purpose (are not water dependent), the regulations presume the availability of less environmentally damaging alternatives.

2) Adverse Impacts:

Prohibits issuance of a permit for projects which would cause or contribute to significant adverse impacts to the aquatic environment.

3) Water Quality:

Prohibits issuance of a permit for projects which would violate any applicable state water quality standard.

4) Mitigation:

Requires project proponents to eliminate avoidable impacts and to minimize and compensate for unavoidable impacts to the extent appropriate and practicable.

A unique aspect of the Section 404(b)(1) guidelines is its "advance identification" (ADID) authority. Under Section 230.80 of the guidelines, agencies have the ability to identify and provide public notice of areas unsuitable for dredge or fill discharges. Although no advanced identification projects have taken place in Michigan, this authority provides a potential tool to guide development activity away from critical wetland areas. Citizens and local governments can initiate consideration of important wetlands for potential ADID designation.

THE ROLE OF OTHER AGENCIES

As mentioned above, the U.S. Environmental Protection Agency has ultimate authority over the Section 404 program. The EPA has primary responsibility for approval of 404 regulations, provides comments on water quality issues, ensures compliance with 404(b)(1) Guidelines, and has the power to veto Corps permit decisions. The U.S. Fish and Wildlife Service is charged with reviewing permit applications to assure that impacts on wildlife and endangered species are minimal according to the Fish and Wildlife Act of 1956 (16 U.S.C. 742a, et seq.), the Migratory Marine Game-Fish Act (16 U.S.C. 760c-760g), the Fish and Wildlife Coordination Act (16 U.S.C. 661-666c) and the Endangered Species Act (16 U.S.C. 1531 et seq.). The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4347) declares the national policy to encourage a productive and enjoyable harmony between people and their environment. Although these federal agencies are routinely notified regarding permit applications, in several instances across Michigan, review of Corps' permitting activities by other federal agencies has been initiated by citizen action.

Section 401 of the Clean Water Act provides Michigan and other states with a powerful tool to protect wetlands. The Clean Water Act authorizes states to adopt surface water quality standards. Any federal permit or license which may involve a discharge to waters of the United States requires a Section 401 water quality certification from the state, based on the surface water quality standards. Each Section 404 individual permit application and all proposed general permits are subject to Section 401 review by the state. However, for a state to take advantage of this oversight power, the state's water quality standards must have criteria specific to wetlands. The MDNR Land and Water Management Division is currently working with the Surface Water Quality

Division to develop water quality standards specific to wetlands in Michigan.

For a discussion of additional laws and policies which may influence wetland activities and for more detail on the laws mentioned here, see Eastern Michigan Environmental Action Council's Guide to Michigan's Watercourse and Wetland Protection Laws.

STATE ASSUMPTION OF THE FEDERAL PROGRAM

Primary responsibility for a state-assumed permit program rests with the EPA. The MDNR assumed administration of the Section 404 wetlands program in August of 1984. Authority to assume the program was granted due to the similarities between Section 404 and the activities regulated by Act 203 along with the other state regulations that affect wetlands, and because MDNR had demonstrated its ability to administer the regulations as effectively as federal agencies. EPA's oversight authority allows it to review all Section 404 permit applications submitted to the state. However, the EPA has waived review of all applications except "major discharges." "Major discharges" are defined, in part, as:

1) Greater than 10,000 cubic yards of fill;

2) Discharges that contain toxic materials; and

3) Discharges into areas determined to be unique, or where the waterway's commercial value could be significantly reduced.

In the case of "major discharge" applications, the EPA coordinates review of the application by the Corps and FWS through the public notice process. Although the state still has jurisdiction, the MDNR cannot issue a Section 404 permit over an objection from the EPA. If the state and the EPA disagree, and EPA's objections cannot be resolved, then 404 jurisdiction *for that particular application* reverts to the Corps. This is the only situation under which the Corps would actually regain jurisdiction.

In addition to this, the Corps has retained jurisdiction over the Section 10 activities as described above *and* Section 404 activities in Great Lakes coastal areas, their connecting waterways, and major tributaries to the upstream limit of federal navigability. In the areas where the Corps has retained jurisdiction, both a Corps and a MDNR permit is required for activities in wetlands. For example, in Emmet and Cheboygan Counties along the Inland Water Route or in the Detroit River, those wishing to alter wetlands must have two permits, one from the MDNR under Act 203 and one from the Corps under Section 404 and/or 10. On most inland lakes, only a MDNR permit is required. Contact the Corps for a list of federally navigable waters in Michigan.

For those applying for permits to alter wetlands in joint jurisdictional areas, the MDNR and the Corps have coordinated efforts to reduce permit duplication. The Corps and the MDNR have jointly developed a single application form to be completed by the applicant. This one form is sent to the Permit Consolidation Unit of the MDNR Land and Water Management Division. If the activity requires Corps review, a copy is made and forwarded to the Corps. From this point on, the applications undergo similar, but separate processes. In some cases, an MDNR permit will be issued, but a Corps permit will be denied, or vice versa. Again, activities in joint jurisdictional water must have both permits to be authorized. In areas that are not under joint jurisdiction, the federal agencies review MDNR Public Notices for major discharges, but do not issue a separate 404 permit.

Both state and federal wetland regulatory programs provide opportunities for the public to become involved in the permitting process. Please see the next chapter for more information regarding citizen involvement.

Local Regulations

In Michigan, local government has traditionally been delegated the primary responsibility for land use control through zoning. Local wetlands protection in addition to MDNR regulation is consistent with this home rule tradition. Act 203 specifically authorizes municipalities to regulate wetlands (Section 8(4)). This authority is supplemental to the existing authority of a municipality to enact zoning ordinances in the public interest under the County, Township, and City and Village Zoning Enabling Acts. Given the importance of the functions and values that wetlands provide, some municipalities in Michigan have adopted local wetland zoning ordinances (See Appendix F).

Indirectly, county sanitary codes and local ordinances which regulate the placement of septic systems may be used to protect wetlands. If a sanitary code prohibits septic systems in areas with high water tables, then those areas are not likely to be used as building sites requiring dredging and filling. These high water table areas may also be wetlands. Thus, in some cases, enforcement of sanitary code provisions may prevent wetland destruction from housing development. However, engineered "mound" septic fields are often permitted in wetlands.

Recently, local wetlands regulation has generated much controversy. Although local municipalities seek to enact wetlands ordinances in an effort to provide for the health, safety, and general welfare of local residents, opponents see these efforts as "overregulation." Regardless, from the perspective of the resource, the individual wishing to alter the resource, and the general public, many benefits result from the local regulation of wetlands in addition to the state and federal programs.

Perhaps the greatest advantage of local wetlands regulations is the ability to achieve quick response to violations. Local government inspectors can make frequent visits to construction sites. The presence of easily accessible and responsive local enforcement personnel can ensure compliance and address violations in a timely manner. Conversely, MDNR enforcement actions may proceed very slowly through the court system, even when the local prosecutors or Attorney General's office are able to undertake prosecution.

LOCAL WETLAND PROTECTION OPPORTUNITIES

Local wetland protection can take many forms. Some communities integrate wetland protection provisions into their zoning ordinances, while others have comprehensive stand-alone ordinances with regulatory standards, procedures for permits, and enforcement provisions. In many instances the municipality will also create a wetlands map to accompany the ordinance (See "Wetland Maps and Inventories" in Chapter Seven). The type of wetland protection program enacted in a municipality is based on many aspects, including the local political climate, available funding or funding mechanisms, staff expertise, etc. Accordingly, every local ordinance will be different. The various wetland protection options for local units of government are outlined below.

Benefits of Local Wetlands Regulations

Benefits to the resource:

- Local wetlands ordinances can regulate activities that adversely impact wetlands but which are exempt from state and federal law.
- Local wetlands ordinances can protect important wetlands not covered by state or federal law.
- Local wetlands ordinances can require ecological buffers to protect the ecological integrity of a wetland.
- Local involvement in wetland regulation can provide the opportunity to integrate wetland protection into development plans.

Benefits to the applicant:

- Local wetland ordinances can provide the early identification of lands subject to wetland permits, thus reducing costs and time delays.
- Local units have the authority to provide incentives for wetland protection that state and federal governments cannot, including cluster options, density bonuses, zoning variances, and tax incentives.
- Local involvement in wetland regulation helps ensure complete applications and thus expedite and clarify state and federal permit processes.

More Benefits...

- Local permits can encourage the avoidance of wetlands early in the development process, thus allowing the applicant to avoid the expensive site engineering that must be done to develop a wetland site.

Benefits to the general public:

- Local wetlands ordinances foster better land use decisions, thus ensuring the long term ecological integrity of a community.
- Insofar as wetlands will be better protected, their presence will contribute to community well being with improved water quality, flood damage protection, wildlife habitat, and valuable recreation and open space.
- Local ordinances avoid public works expenditures to replace the functions that wetlands provide naturally, such as flood and erosion control.
- By improving the protection afforded to wetlands, local wetlands regulations save individual homeowners money by avoiding the costs of settling foundations, driveways breaking up prematurely, leaking basements, and other adverse results of wetland development.

Local Zoning Options

Condition Local Permits on State and Federal Permits

Perhaps the simplest type of local wetlands regulation is one that requires the issuance of a state or federal wetland dredge and fill permit (or a letter from the agency stating that no permit is necessary) before a local zoning permit can be issued for activities in wetlands. This type of local regulation can be implemented in any municipality at little or no cost. Although this type of ordinance can help to reduce the number of development activities that go unreviewed by state and federal agencies, it is limited in that it only covers wetlands and activities that are regulated by state or federal law.

Supplemental Regulations

These are specific standards and criteria that apply to land use activities in all zoning districts throughout a community. These standards apply to activities that require a site plan review and those that don't. Typically, supplemental regulations provide standards for regulating activities that affect wetland resources and other sensitive areas such as sand dunes, natural rivers, lake and stream shoreline areas, scenic views, etc. Because the supplemental regulations apply in all or a designated number of zoning districts, specific mapping of a sensitive areas district or wetland zone is not necessary.

Site Plan Review

In this process, detailed proposed development plans are reviewed to ensure that the development meets specific wetland protection criteria. Since most local governments already administer some sort of site plan review process in their local zoning ordinance, this approach adds little additional staff time. To effectively protect wetlands, specific wetland protection standards must be developed. Site plan review standards can include site design provisions to ensure that no wetlands are dredged or filled, soil erosion and stormwater controls are in place, ecological buffers are in place, and prohibit the creation of lots composed of only wetland. The site plan review process provides an opportunity for local units of government to integrate wetland protection into their existing zoning program and protect wetlands in a proactive manner by regulating activities not covered by the state and federal regulations.

Overlay Zone

This is a separate zone placed over existing zoning districts that adds new regulations to those of the underlying zone. This provides the opportunity for the local government to "zone" for wetland protection without completely "revamping" the zoning ordinance. In addition, this also prevents the need to map wetlands districts separately from other districts. A municipality could choose to include all wetlands in the community in this zone, or limit the overlay to specific wetlands based on some criteria (e.g. critical wetlands or wetlands not regulated by the state). The provisions in this zone can be the same or additional standards as that required for the site plan review process.

Stand-Alone Ordinance

Perhaps the most time- and staff-intensive wetland protection option for the local government is the stand-alone special purpose wetlands protection ordinance. These ordinances typically contain standards that are more strict than state or federal regulations and include sections on regulatory, standards and procedures for permits, and enforcement activities. Although the cost of a comprehensive wetlands protection ordinance may seem daunting, many communities have developed fee structures whereby the applicant benefitting from the wetland alteration pays the full cost of permit review, including site inspection, wetland delineation, and meetings.

In any of these options, there are issues that must be addressed, including mapping, wetland definitions, regulated activities, enforcement and penalties, and relationship with state and federal regulations. Unless these issues are adequately addressed in a community forum, a proposed local wetland regulation will generate much controversy. For additional treatment of these options, see the Michigan Society of Planning Official's (MSPO) Community Planning Handbook, the Rouge River Watershed Council's Protecting Wetlands At the Local Level: Options for Southeast Michigan Communities, or the American Planning Association's Protecting NonTidal Wetlands. In addition, organizations such as MSPO, The Clinton River Watershed Council, Environmental Protection Coalition of Oakland County, and Tip of the Mitt Watershed Council have ongoing planning and zoning programs.

Once again, the shape and form of a local ordinance depends on a variety of factors. Accordingly, there is no one "best" way to protect wetlands at the local level. For instance, a well enforced requirement that conditions local zoning approval on state and federal permits may be more effective than a comprehensive stand-alone ordinance that is not enforced at all. For information regarding local wetlands protection or model ordinances, contact your local organization involved in wetlands protection (See Appendix A), one of the resource groups listed in the paragraph above, or one of the municipalities that have enacted a wetlands ordinance (See Appendix F).

In some communities, the enactment of a wetlands protection ordinance has been a long and intensive process; in others, there was little controversy. If done correctly, the benefits to the wetland resource and the local community will be well worth the effort. ▾ ▾ ▾

Wetland protection laws help to avoid losses from floods.

Chapter Four

Citizen Involvement in Regulatory Programs

- **The Value of Individual Action**
- **Participating in the Permit Process**
- **Ensuring Enforcement**
- **Citizen Involvement in Local Wetland Protection Programs**
- **Local Citizen Wetland Protection Teams**
- **Advocacy Guidelines**

The Value of Individual Action

Both state and federal regulations provide opportunities for citizens to participate in the wetland regulatory process. In addition to providing comment on applications to alter wetlands as provided by law, citizens can effectively promote wetland protection in many other ways. Given that many wetland violations go unaddressed by regulatory staff, informed citizens can provide a key role in reporting wetland violations and encouraging regulatory response. In addition, informed citizens can raise the overall level of appreciation for wetland resources and support for wetland protection.

The success of any regulation largely depends upon public support. This is particularly true in the case of Michigan's Wetland Protection Act, the enforcement of which almost always relies upon the efforts of locally elected prosecutors. As citizens are informed and motivated to participate in local wetland protection efforts, their activities will necessarily influence local, state, and federal initiatives in a positive manner. Thus, local action is instrumental in providing a political force to promote wetland protection at all levels. This chapter will focus on citizen involvement in the permit process and reporting violations. Citizen action as it relates to education and raising awareness is the subject of Chapter Six.

Participating in the Permit Process

OBTAINING PUBLIC NOTICES

The first step of actually participating in the permit process is to obtain information regarding permit applications. Applications that are public noticed are typically sent to the appropriate Lake Association, adjacent landowners, watershed councils, and local units of governments (townships, municipalities, and Soil and Water Conservation Districts). Although this sounds like broad distribution, most public notices go virtually unnoticed by the general public. Fortunately, there are several statewide programs that provide the opportunity for local citizens to be aware of wetlands permit applications in their area. These include both the MDNR and the Corps notification process, and the MUCC "Wetland Watch" program.

MDNR Notification Process

As mentioned in Chapter Three, the MDNR Land and Water Management Division administers the Michigan Wetland Protection Act and other state regulations impacting wetlands. For a $25.00 annual fee, anyone may receive a weekly listing (distributed bi-weekly) of all permit applications the MDNR receives (See Appendix D). To receive the weekly listing, send a $25.00 check payable to the State of Michigan and a written request to:

Land and Water Management Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, MI 48909

It is important to note that this listing is simply a list of all applications that the MDNR receives and only serves as a first line of notification for the wetland advocate. The listing can be used to identify proposed projects in a particular area. The applications are listed in order according to their application number. The first two digits represents the year, the second two represent the MDNR District Office. First look for the applications submitted in your MDNR District, then the project location can be pinpointed by county, waterbody, and township section. The project type appears in the "waterbody" column.

Next, the "application number" column indicates which statute is controlling. If it is Act 203, then the project involves a wetland. If it is Act 346 or 247, the project may or may not be in a wetland. A separate 203 permit is not required if a 346 or 247 permit is also required. Therefore, the MDNR reviews the project under Act 346 or 247 but must also consider Act 203 requirements. In these cases, the application must be reviewed or the appropriate agency contacted to determine if the proposed activity will impact wetlands.

An application listed for your area does not necessarily mean that it will be public noticed and that public comment will be solicited. Often, the permit application will be processed as a general permit, and therefore not subject to public notice, or the applicant will withdraw the application.

The opportunity for public comment is provided for a dredge and fill application if the MDNR issues a formal public notice. The MDNR issues a public notice for most individual applications. The public has 20 days to submit written comments on the proposed activity, whereas local governments have 45 days to file comments. Since a copy of the full application is not always posted with the public notice (e.g. the alternatives analysis may be missing), a special request may need to be made to the MDNR for further information. Also, since the MDNR does not routinely send public notices to individuals, a special request must be made to receive notices for a specific area.

The MDNR may choose to issue a public notice and call for comments even if an activity is otherwise covered by a general permit, but they do not normally do so. The purpose of the general permit is to avoid delays in permit decisions for minor activities. Although watershed councils receive copies of general permit applications, public notice and comment are eliminated. Current general permits include minor fills of 300 cubic yards or less, open pile boardwalks, exploratory pad locations and access roads for mineral drilling activities, and others. Contact the MDNR Land and Water Management Division for a current list of activities regulated by general permits.

Corps Notification Process

As explained in the previous chapter, the Corps has authority to issue permits for activities regulated under Section 10 of the Rivers and Harbors Act and on selected waters under Section 404 of the Clean Water Act. When the Corps jurisdiction overlaps the MDNR's, a "joint public notice" is issued by the Corps. Comments are received by both agencies when a joint public notice is issued. Included with the joint notice is a description of the proposal and sketches of the proposed activity. As with the MDNR notice, individuals have 20 days to file comments.

To receive Army Corps notices, write to:

District Engineer
Detroit District
U.S. Army Corps of Engineers
P.O. Box 1027
Detroit, MI 48231-1027

The Corps also has the authority to issue general permits which may not be public noticed. However, general permit standards differ between the state and federal regulatory programs. As a result, a permit application that is not public noticed by one agency might be by the other.

MUCC Wetlands Watch Program

A third source of information on wetland permit applications is the Michigan United Conservation Clubs' (MUCC) Wetlands Watch Program. MUCC acts as a clearinghouse for public notices, both MDNR and Corps. MUCC will send the notices they receive to individuals or groups in a specific region free of charge. This provides one of the simplest means for wetland advocates to access public notices in their region. However, the weekly application notices must still be obtained from the MDNR to review all submitted applications in addition to those that are public noticed.

To receive Corps and MDNR public notices from MUCC, write to:

Michigan United Conservation Clubs
P.O. Box 30235
Lansing, MI 48909

EVALUATING AND COMMENTING ON PERMIT APPLICATIONS

The Role of the MDNR and Corps

The Corps and MDNR coordinate application processing to some degree. Applications to authorize activities in wetlands are submitted to the Michigan Department of Natural Resources Land and Water Management Division (LWMD) in Lansing. The application is first reviewed by the Permit Consolidation Unit (PCU) and listed on the weekly listing of applications received by the Department. If the application materials are incomplete, PCU staff contacts the applicant for more information. If an applicant does not respond to a request for further information within 30 days, the application may be considered withdrawn.

When the information is considered administratively complete, PCU staff determines if the permit will be reviewed under the general permit process and if the permit is subject to Corps regulation. In areas of joint jurisdiction, a copy of the permit application is forwarded to the Corps' Detroit District Office. Although the process is similar, MDNR and Corps application reviews are conducted independently.

Sometimes, the activities for which a permit is being sought have already begun. In these cases, the application is referred to as an "after-the-fact" application. Although the wetland more than likely has already been adversely impacted, the agency staff are required to evaluate the project using the same criteria as if the project had not commenced. If the final decision is a permit denial or a modification of the work done, the applicant may be required to restore the wetland completely or modify the existing project to minimize impacts.

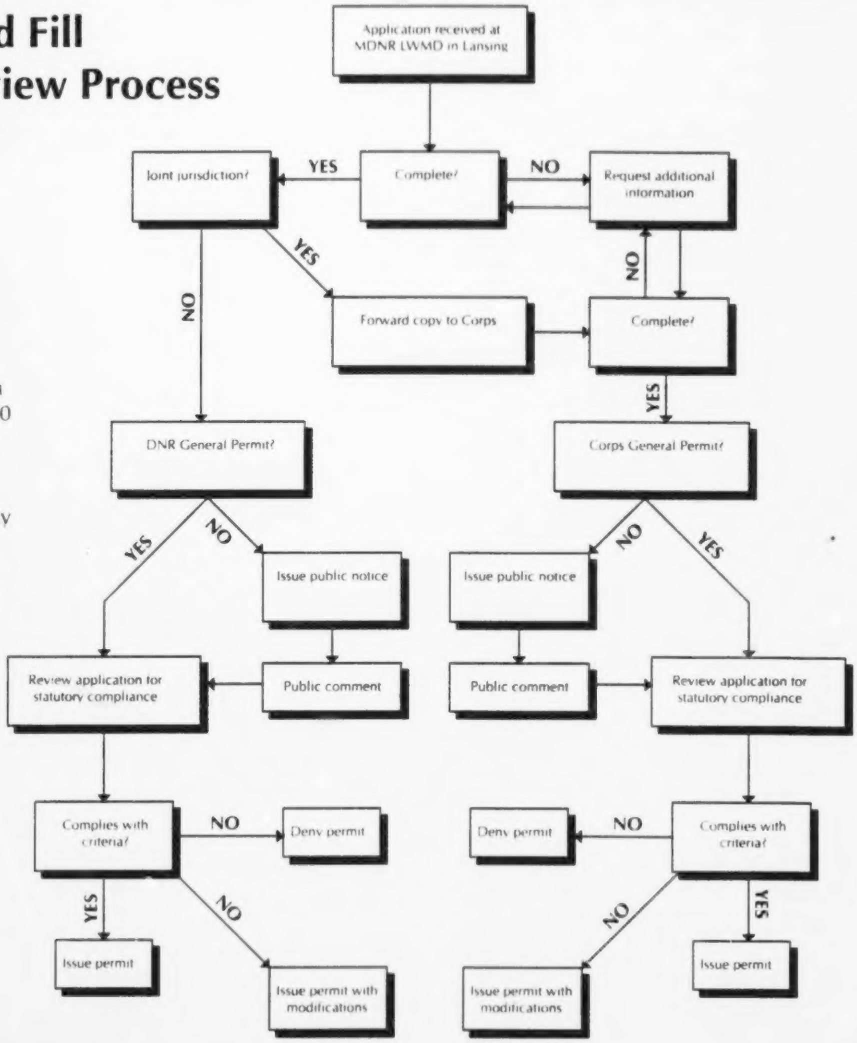
In most cases, permit applications reviewed by the MDNR field offices and under the Corps individual permit process receive a site visit by agency staff. The field review of the subject parcel enables the agency staff person to make site-specific determinations about the proposed project.

Agency staff must review the proposed project in light of the regulatory standards and criteria stipulated by law (See Chapter Three). In addition, agency staff must also consider public input, the comments of local units of government, and the findings of other state and federal agencies. In the case of the MDNR, if a public hearing is requested on a wetland dredge and fill application, then one must be held. The Corps staff have discretion regarding holding public hearings (See the discussion on public hearings later in this chapter).

Although the Corps has no statutory time limit, the MDNR has 90 days to make a decision after receiving a complete application. The time is extended if a hearing is held.

If the local government denies a permit application under its ordinance, the MDNR must refuse to issue

Dredge and Fill Permit Review Process


Application received at MDNR LWMD in Lansing
Joint jurisdiction?
YES
Complete?
NO
Request additional information
YES
NO
NO
Forward copy to Corps
Complete?
YES
DNR General Permit?
Corps General Permit?
YES
NO
NO
YES
Issue public notice
Issue public notice
Review application for statutory compliance
Public comment
Public comment
Review application for statutory compliance
Complies with criteria?
NO
Deny permit
Deny permit
NO
Complies with criteria?
YES
NO
NO
YES
Issue permit
Issue permit with modifications
Issue permit with modifications
Issue permit

NOTE:

1. The MDNR must make a permit decision within 90 days of receiving a complete application.
2. The EPA has the authority under section 404(c) to "veto" both Corps and MDNR permit decisions upon concluding that unacceptable adverse impacts would result.

an Act 203 permit except where statewide or regional benefits are involved. A local decision to issue a permit, however, is not binding on the MDNR if Act 203 standards would be violated. Violations of local ordinances have their own remedies.

When the agency staff has reviewed public comments, other agency comments, and applied the regulatory standards, a decision is made. There are basically three options:

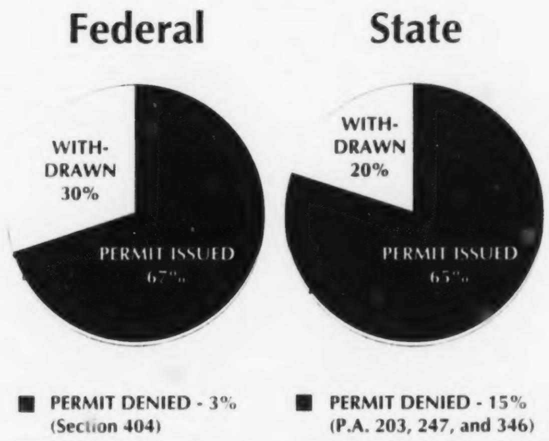
1) Denial of the permit application;

2) Issuance of the permit with modifications; or

3) Issuance of the permit as it was originally proposed.

Although the MDNR and Corps wetland protection programs are seen as a major impediment to development, relatively few permit applications are denied.

Percentages of state and federal wetland fill permits that are issued, denied, or withdrawn.



When the decision is made to issue the permit with modifications, a "draft" permit is sent to the applicant for his or her signature. When the draft permit is signed and returned to the Department, it is then issued and the applicant must comply with its terms and conditions. For unmodified permits, the permit is issued directly from the MDNR. The permit may be valid for a period extending until the end of the following calendar year, or in some cases for a longer period. Up to two 12 month extensions may be granted if there is no change in the activity for which the permit was originally issued.

Any person aggrieved by an MDNR decision on a permit application may request a formal contested case hearing from the MDNR to review the decision. If appeals to the MDNR are exhausted, then an aggrieved person may go to court. The Corps has no administrative appeal process. Relief from an adverse Corps decision can only be obtained through the federal court system.

The Citizens' Role

The citizens' role in evaluating permit applications is very important to the wetlands protection process. Not only do citizens provide valuable information, but they also serve as a reminder to agency staff that the purpose of the wetland regulations is to protect the public's interest in maintaining the functions and values that wetlands provide. The process described below presents a simple procedure to help citizens analyze public notices and determine the best course of action.

Step One: Understand the Permit Application. Assuming you have taken the steps to receive a public notice, there are important pieces of information contained in the public notice of which the wetland advocate needs to be aware. These pieces of information include:

1) The date the public notice was issued (the agencies will receive public comment for 20 calendar days from the issue date);

2) The application file number (this number should be included in any correspondence);

3) The project location (this is helpful when investigating the site);

4) Adjacent landowners (these individuals are often very helpful in providing information about the site);

5) The type and extent of the activity (this is critical when assessing project impacts);

6) The wetland boundaries (keep in mind that the boundaries as drawn on the application materials may be those of the applicant and subject to agency verification); and

7) The purpose of the proposed activity (this is critical when determining if the proposed project is dependent on being located in a wetland and if there are available alternatives).

Step Two: Gather Information.
Now that you have the permit application in your hand, it is time to apply your knowledge regarding wetland definitions, functions and values, and the appropriate wetland regulatory standards. To be most effective, any individual or group commenting on an application should have first-hand knowledge of the wetland values and functions of each site in order to determine the potential project impacts. Fish and wildlife values, shoreline stabilization values, hydrologic values, endangered or threatened plants and animals, nutrient and sediment retention capabilities, recreational uses, and any other benefits should be identified.

Information can be sought from a variety of sources. Although not always granted, permission to visit the site should be requested from the landowner. If permission is not granted, then the site should be investigated from adjacent private or public land. The informational resources mentioned in Chapter Two should be reviewed for pertinent information regarding the wetlands on site. Other agencies such as the Michigan Natural Features Inventory, the U.S. Fish and Wildlife Service, and college and university faculty may provide valuable information. It is very helpful in the evaluation of a project if people with knowledge of the site provide information regarding the functions that the wetlands provide. For instance, in regards to habitat values, reliable information regarding animals, birds, or fish, etc., that use the wetland should be collected.

Step Three: Apply the Regulatory Standards.
The effectiveness of your comments will depend upon how relevant they are to the regulatory standards that the agency staff must apply. The requirements for Act 203 and the Section 404(b)(1) guidelines are presented in Chapter Three. In reviewing both the Corps and MDNR public notices, there are three main questions that the wetland protection advocate should always consider. These questions effectively summarize the regulatory standards.

1) Do feasible and prudent (or "practicable" in Corps' permits) alternatives exist? If the project is not dependent upon being placed in a wetland, then alternatives are presumed to exist. Although by law the applicant has the burden of proving that no alternatives exist, often the alternatives analysis is very superficial. Common alternatives that minimize impacts on the wetland resource include the use of upland building sites, alternate methods of construction to minimize fill, or bridges over wetlands instead of culverts and fill. Remember, alternatives can also include practicable alternate locations not presently under the applicant's control but reasonably available. Local knowledge regarding alternatives can be very important. Because local citizens are familiar with the area in question, they may know about alternatives (such as available land or other access sites) that are not apparent to the regulatory staff.

2) Is the project in the public interest? The degradation of wetlands harms the public by effectively depriving the functions and values that those wetlands provide. When determining if a project is in the public interest, consider the following questions: Is there a demonstrable need in the community for the project? Will the benefits of the project to the community outweigh the negative harm to the public?

3) Will an unacceptable disruption to the aquatic resources result? When trying to assess the disruption to the aquatic resources, consider the following questions: What individual and cumulative impacts will the proposed project have on public and private uses of the wetland and the wetlands natural functions? Is the wetland habitat for endangered, threatened, rare, or special concern plants and animals? Have the impacts been minimized to the greatest extent possible? Will negative impacts be appropriately mitigated by the applicant?

Step Four: Take Action.
After answering the questions above, the wetland advocate must determine whether or not to take action. If the project has no alternatives, is in the public interest, and will have an acceptable disruption on the aquatic resources, then there is no need for further involvement. However, this is seldom the case. In practically all cases, citizens can provide comment valuable to the permitting process. The most effective ways to provide comment are through

letters and public hearings.

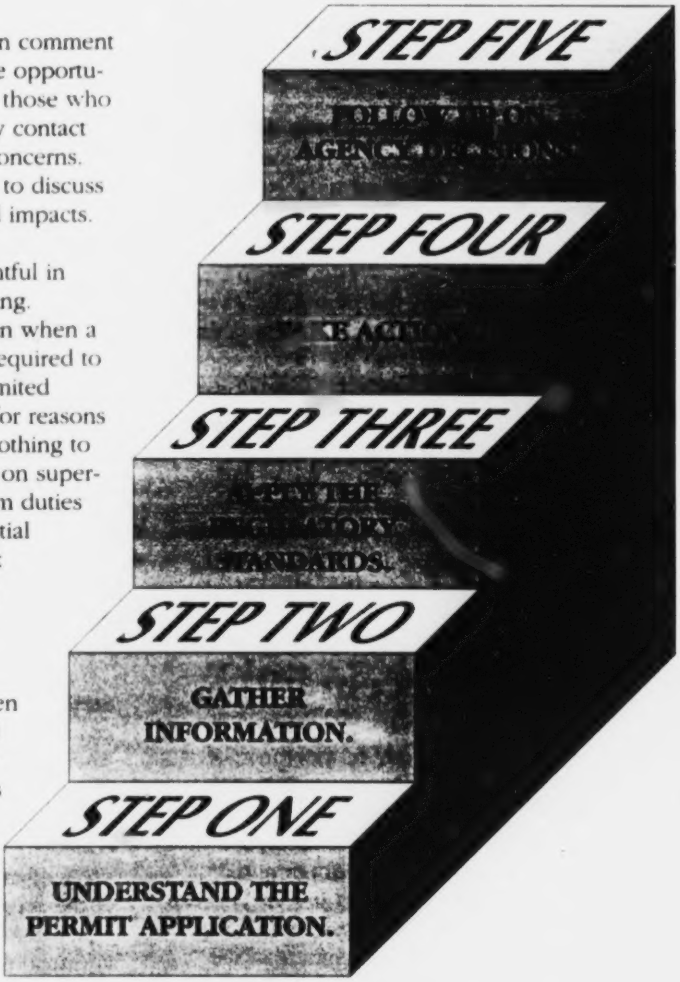
Most concerns can be adequately expressed by letter. Written comments should always indicate the application or process number and be addressed to the contact person in the written notice, as this ensures that the comments will be considered for the appropriate application. Written comments to the MDNR or Corps should be straightforward and factual. Opposition to issuance of a permit or suggestions for modifications should be stated clearly. Comments should include information on environmental impact and statutory compliance, including local ordinances. If a project violates a local code, the MDNR will typically deny the permit. If you plan to engage in follow-up activities, request that you be notified regarding the agency's final decision.

The Corps will send a copy of every written comment to the applicant. The applicant is given the opportunity to respond and encouraged to contact those who have commented. Some applicants directly contact those who file comments to discuss their concerns. In many cases, this provides a good forum to discuss alternatives that minimize or avoid wetland impacts.

The wetland advocate must be very thoughtful in determining when to call for a public hearing. Although the Corps is given some discretion when a public hearing is requested, the MDNR is required to hold one. The regulatory agencies have limited resources. Public hearings that are called for reasons extraneous to wetland protection will do nothing to protect wetland resources. Staff time spent on superfluous public hearings takes time away from duties such as enforcement or investigating potential violations. Unnecessary hearings can work against the wetland advocate by providing the opportunity for the applicant to make his or her case stronger.

Citizens often request a public hearing when they are interested in a public review of all aspects of a proposed development. They then feel frustrated when told by the Corps or MDNR hearings officer that they must limit their questions and comments to only those issues related to the wetland permit process. One alternative is to have the local government hold a public meeting free of the constraints of a formal Corps or MDNR hearing. This provides the opportunity for the citizens to discuss all issues related to the project in addition to wetlands impacts.

Public hearings should be requested when greater public involvement would be effective, when written comments may not be adequate. Public hearings can be useful for providing additional comment on applications where large projects are proposed that would impact many individuals, involve wetlands important for maintaining the water quality of a lake or stream, have valuable fish and wildlife habitat,


STEP FIVE
FOLLOW UP ON AGENCY DECISIONS.
STEP FOUR
TAKE ACTION.
STEP THREE
APPLY THE REGULATORY STANDARDS.
STEP TWO
GATHER INFORMATION.
STEP ONE
UNDERSTAND THE PERMIT APPLICATION.

Steps to Reviewing Dredge and Fill Applications serve important hydrological functions, or are rare or representative examples of particular wetland types. In addition, public hearings often serve to educate the local community about wetland values and the wetland regulatory process, while giving the public a chance to have their voice heard.

A written statement should be prepared in advance of the hearing, and the major points of the statement should be presented at the hearing. The written statement should be left with the hearing officer for the official record. Any opposition to the project should be explained and justified, factually and succinctly. Additional comments may be submitted after the hearing if necessary.

Step Five: Follow-up On Agency Decisions.
In most cases, after a letter is sent or a public hearing is held, the citizen and the agency staff person never have another interaction. Follow-up on agency actions is important to the wetland advocate. A request for notification of the final permit decision will usually be granted. However, if for some reason it is not, the permit decision can be requested in writing under the Freedom of Information Act (FOIA).

If the final decision is to deny the permit, be aware that the applicant can always reapply. If the permit is issued, make sure you understand the permit conditions, if any. Noncompliance with the conditions of a permit constitutes a violation of the wetland protection statutes. Agency enforcement of the provisions may depend on citizen notification of the violation. In addition, follow-up on agency decisions can provide useful background when assessing cumulative impacts in a watershed, and provides helpful direction for future wetland protection efforts.

Ensuring Enforcement

Many wetlands are degraded due to ignorance of permit standards or before necessary permits are obtained. Both the MDNR and the Corps are responsible for enforcing their respective wetland protection programs against unauthorized and unpermitted activities. Violators of both state and federal acts can be made to restore the wetland to its natural state and/or be subject to fines and jail sentences (See Chapter Three).

REPORTING VIOLATIONS

Citizen complaints frequently trigger enforcement actions. As agency staff resource limitations provide for minimal enforcement, citizens can serve as the "eyes and ears" to ensure that wetlands are not being illegally degraded. However, to participate in enforcement actions effectively, the appropriate types of information must be reported to the regulatory agencies. Nobody benefits from inaccurate violation reports, as they waste valuable regulatory staff time and result in overall fewer enforcement actions. To make sure that your role in enforcing wetland regulations is as effective as possible, the following process is recommended.

Step One: Assess the wetland.
Citizens reporting violations should be able to provide information regarding the following:

1) The exact location of the wetland, including Township and Range numbers;

2) Evidence showing that the area is indeed a wetland (See Chapter Two); and

3) Circumstances to show that the wetland is likely to be jurisdictional under state and federal law.

Step Two: Assess the activities in the wetland.
Do the activities indeed constitute violations of state and federal wetland regulations. The exact activities that are taking place in the wetland must be assessed and the dates these activities took place must be included. Keep in mind that there are many exempted activities in both state and federal wetland regulations (i.e. cutting trees in a wetland). Complaints to the regulatory agencies regarding exempted activities will not be addressed by agency staff.

Step Three: Assess the ownership, agents, contractors, or controlling interests.
Any agency enforcement action must be addressed to the appropriate responsible parties. Information regarding the property owners and the individuals or contractors who are engaged in the wetland activity saves agency staff valuable time. If you are unsure of the property ownership, a call to the county equalization office will provide the appropriate information.

Step Four: Determine if permits have been issued.
Many complaints that are reported to the MDNR or

Corps involve activities that have been permitted. Unless there is a gross violation of permit standards, the agency staff will not investigate activities in wetlands that have received a permit. However, remember that in areas of joint jurisdiction, a permit is needed from both the MDNR and the Corps. In these areas, activities done in compliance with a permit from one agency may constitute a violation of the other's wetland protection statute. Determining if a permit has been issued can sometimes be difficult. Usually, an issued permit will be posted at the site. If this is not the case, the landowner or agent should be able to provide a copy of the permit. The appropriate agency can also be contacted to provide information on permit issuance.

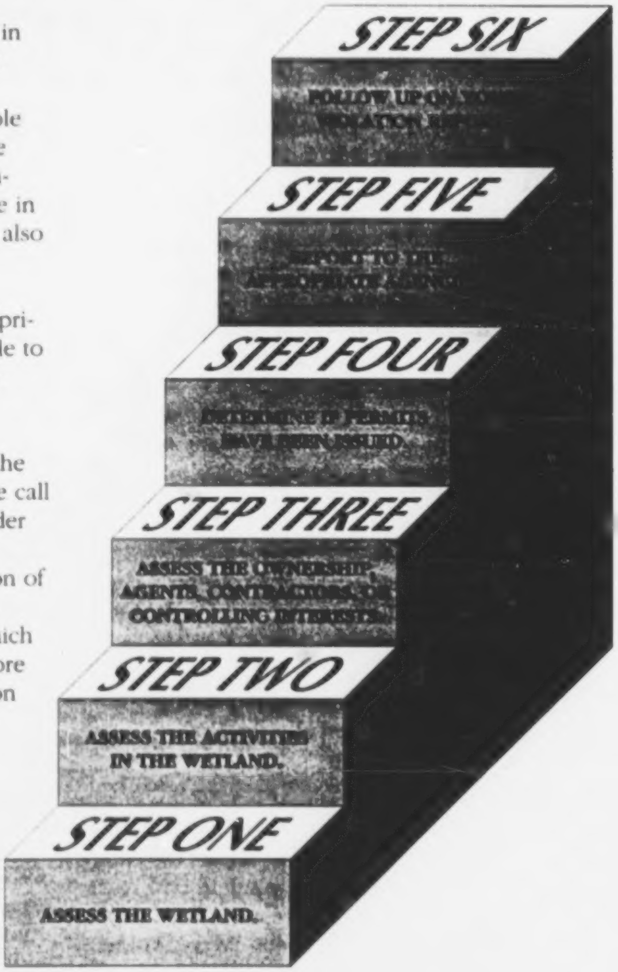
Step Five: Report to the appropriate agencies. Getting your violation report to the appropriate agency staff person is very important. If you are in areas of joint jurisdiction, both the MDNR District Office (See Appendix E) and Corps should be notified by letter and a phone call. In areas of sole MDNR jurisdiction, the MDNR District Field Office should be notified. In addition, in several circumstances, Conservation Officers have been effective in initiating enforcement actions. Violations should also be reported to these individuals.

If a local ordinance is in place, contact the appropriate local officials also. A municipality may be able to issue a stop work order in a more timely manner than Corps or MDNR staff.

When reporting violations, you should both call the appropriate agency and write a letter. The phone call may initiate the enforcement action, and it is harder for agency staff to ignore a letter in the file. In addition, you may want the written documentation of your report when following-up and encouraging enforcement action. In addition, violations in which several calls or letters are received tend to get more attention. For this reason, other wetland protection advocates should also be encouraged to report particular violations.

To be most effective, letters and phone calls should include all the information listed above in a clear manner. In addition, as the agency staff may want additional information, your phone number and address should also be included. The identity of those reporting violations will be kept confidential to the greatest extent possible. However, the citizen wetland protection advocate should be aware that the violator can request information regarding who reported the violation through the Freedom of Information Act. Although this is unlikely, you may want to file an anonymous complaint. Alternatively, the wetland advocate should also be aware that MDNR and Corps staff is less likely to respond to anonymous complaints.

Step Six: Follow up on your violation report. Due to a variety of constraints, enforcement action is not always a high priority for the MDNR and the Corps. As a result, it is very important to follow up


STEP SIX
FOLLOW UP ON YOUR VIOLATION REPORT.
STEP FIVE
REPORT TO THE APPROPRIATE AGENCIES.
STEP FOUR
DETERMINE IF PERMITS HAVE BEEN ISSUED.
STEP THREE
ASSESS THE OWNERSHIP, AGENTS, CONTRACTORS, OR CONTROLLING INTERESTS.
STEP TWO
ASSESS THE ACTIVITIES IN THE WETLAND.
STEP ONE
ASSESS THE WETLAND.

Steps to Follow When Reporting Violations on enforcement activities with the appropriate agency staff person. Not only can citizens provide additional information, but they can also provide motivation to agency staff.

OTHER OPTIONS

The wetland protection advocate may find that the Corps and MDNR fail to take enforcement action against a violator. In that situation, other avenues are available to ensure that the law is enforced. Options such as the Contested Case process or filing legal suits for injunctive relief provide mechanisms for citizens to further protect wetlands when the activities of MDNR or the Corps are inadequate. Although these options do provide opportunities, they are not without cost.

Contested Case Hearings

Under Michigan's Administrative Procedures Act (P.A. 306 of 1969) all citizens are provided the opportunity to file for an administrative hearing to contest any action or inaction of a state agency. The contested case hearing process is commonly used by applicants to contest permit denials, but can also be used by wetland protection advocates to contest permit issuances or other regulatory activities (often called "third party contested cases"). The MDNR has a packet of materials explaining the contested case process available to the public.

The contested case process has limited utility for the wetland protection advocate. There are two major drawbacks: 1) it does not provide injunctive relief, and 2) there is currently a two year wait for a contested case hearing. As a result, third party contested cases can be filed, but wetland dredge and fill activities done in compliance with an issued permit can still continue. Theoretically, by the time the contested case hearing is held, the work could be completed. For this reason, lawsuits requesting injunctive relief are usually filed along with the contested case hearing request.

Judicial Remedies

Although the Goemaere-Anderson Wetland Protection Act does not authorize citizens to file suit to ensure that the law is not violated, there are other legal avenues. The Michigan Environmental Protection Act (MEPA) (P.A. 127 of 1970) authorizes any person, organization, or governmental body to file suit against any other person, organization, or governmental body to prevent or minimize environmental degradation. On the federal level, Section 505 of the Clean Water Act allows citizens to bring suit to enforce the guidelines in Section 404. In addition, since the destruction or impairment of the values that wetlands provide may adversely impact adjacent landowners, common law doctrines, including riparian rights, nuisance, and trespass law, may be applicable. (See the discussion of these laws in Chapter Three.)

Although these options exist, they are seldom utilized. This may be due to the fact that substantial resources (time and money) are usually required to pursue these options. In legal challenges to wetland activities, it is critical to have specific and credible scientific information. Expert witnesses will be brought in to support both sides of the conflict; without credible experts legal challenges to enforce wetland protection regulations will be unsuccessful. In addition to biological information, engineering and economic information may also be necessary. In all cases where the wetland advocate considers pursuing legal means, an attorney skilled in environmental law should be consulted.

Citizen Involvement in Local Wetland Protection Programs

EXISTING PROGRAMS

As mentioned in the previous chapter, many local governments have enacted local wetland zoning and stand alone ordinances. The type and level of protection provided by these local ordinances varies greatly, as does the role of local citizens in the process. The Michigan municipalities that have enacted wetland protection ordinances are listed in Appendix F. If you live in one of these municipalities, you should contact the appropriate local agency to see how you can participate in the process.

In all municipalities, review of state and federal wetland dredge and fill applications should include an analysis of the local zoning ordinance to assure compliance with any provisions that might be used to protect the wetland. If the project violates the local ordinance, the MDNR and Corps should be notified. In addition, the local zoning administrator or reviewing body should be made aware of the proposed activity to ensure appropriate local review.

Citizens can help to inform officials about wetland functions, values, and regulatory options.

PROMOTING ADOPTION OF LOCAL WETLAND PROTECTION PROGRAMS

Communities which do not currently have wetland provisions in their zoning codes should be urged to enact them. Citizen wetland protection advocates can play an integral role in initiating regulatory and nonregulatory wetland protection activities at the local level. There many local wetlands protection options available and each community is different. Successful wetland protection zoning provisions or ordinances must be individually tailored to meet a community's needs. Although the process that leads to the enactment of successful wetland protection at the local level is different in each case, the following steps serve as a general guide to follow when initiating local wetlands protection efforts.

Step One: Identify Community Leaders Supportive of Wetland Protection.

Enacting any ordinance is a political process. To be successful, community opinion leaders must be educated on wetland values and enlisted to support wetland protection. It is also important that the wetland protection advocate involve leaders from the regulated community (developers, contractors, realtors, etc.) in supporting the efforts. If these individuals are not involved in the process at the beginning, they may serve to block the process later on.

Step Two: Encourage Local Government to Investigate their Options.

Citizen wetland protection advocates should provide information to the local government officials regarding the benefits of local wetlands protection, the range of regulatory and nonregulatory options, what has worked in other communities, the critical issues that must be addressed, and innovative ways to fund local wetland protection programs. In addition to the local initiatives that focus solely on regulation of wetlands, local governments can also initiate community land trusts, natural features ordinances, stormwater management guidelines, and other resource management options that will benefit wetlands. See Chapter Three, or contact the local municipalities who have enacted wetlands ordinances for more information.

Step Three: Educate the Local Community and Media.

To be successful, local wetlands protection efforts must have a broad base of support. An informed citizenry is critical to ensuring this support. Since local television stations and newspapers play a very important role in forming attitudes, wetland protection advocates should make extra efforts to ensure media sources are well informed.

Step Four: Participate in the Process.

If the local unit of government is serious about protecting wetlands and there is adequate public support, they will begin to engage in developing a wetland protection program. In most cases, this will involve drafting zoning provisions or ordinance language by the planning commission, planning staff, or the establishment of a committee. In each of these situations, the wetland advocate will have the opportunity to participate either through public hearings or serving on an advisory committee.

The ordinance should be tailored to the local government's available resources. Clear, detailed, and reasonable standards and requirements are the key to successful wetland zoning. To ensure success, the ordinance should be in accordance with prior planning efforts and be based on a thorough knowledge of the local wetland resource. Since existing state and federal programs will impact the local efforts, the appropriate agencies should be consulted prior to enactment.

Step Five: Ensure Enforcement.

Once a good ordinance is in place, proper administration and enforcement become crucial. Funding is essential for good enforcement, as well as community support for the ordinance. Citizen wetland protection advocates must continue to be involved in raising awareness of wetlands protection in the community, participating in the local wetlands review, and reporting violations.

Local Citizen Wetland Protection Teams

Working to protect wetlands on an individual basis can be very draining. Although individual action is critical to the protection of Michigan's wetlands, a group of interested citizens can provide an effective wetland protection program. Many organizations across the state are active in initiating, training, and coordinating local citizen wetland protection efforts. Some of these include Clean Water Action, Clinton River Watershed Council, Michigan United Conservation Clubs, Huron River Watershed Council, Lake Michigan Federation, and Tip of the Mitt Watershed Council (See Appendix A).

If you are interested in forming a wetland protection team, a good first step is to contact existing organizations to see if there are already efforts in your area or if they can provide the structure and expertise for the team. Lake associations, watershed councils, or environmental groups are all likely places to start. Do not let the lack of a group in your area deter you. Many of the groups who are coordinating local citizen wetland protection teams in other areas of the state can provide information to get you started.

One of the best ways to motivate citizens to protect wetlands is to focus the efforts of the group on a specific geographic region. Not only does this make the efforts of the citizen team more relevant to the individual members, but it makes monitoring and response activities more effective and easier to coordinate. Depending on the size of the region, it may be best to divide it into geographic areas such as watersheds, lakes, rivers, townships or counties, and to assign at least one committee member as the monitor of each area.

The initiation and coordination of a citizen wetland protection team provides an ongoing mechanism to protect wetlands in a proactive manner. Often, the threat of immediate environmental damage draws citizens into action. Then, after a particular issue has been addressed, wetland advocates often go back to their daily lives, not to be motivated until the next development proposal threatens wetlands in their area. Local groups can continue their momentum and capitalize on the contacts and experiences gained by focusing on proactive activities.

Citizen teams can provide an effective mechanism for public involvement in wetland protection. There are numerous activities that citizen teams can get involved in, including:

1) Inventorying critical wetland areas;
2) Receiving wetland permit application notices and responding to public notices from regulatory agencies;
3) Monitoring their local wetlands for unauthorized alterations;
4) Assessing cumulative wetland losses;
5) Documenting functions and values of local wetlands; and
6) Educating other citizens.

Citizen team activities such as these can lead to the long term protection of wetlands.

Advocacy Guidelines

As mentioned above, the role of the public is critical to the protection of Michigan's wetlands. As a result, it is important that citizens take this role seriously and participate with integrity. Even though the wetland advocate may feel like the "deck is stacked on the wrong side," following certain guidelines will ensure that public participation is given the respect that it deserves. Although each of us go about protecting wetlands in our own way, these general guidelines help ensure that public participation is taken seriously:

1) Base your position on solid technical information and sound policy analysis;
2) Gather information in legal ways;
3) Respect the legal rights of others, including the potential violator;
4) Don't use wetlands protection as a "red herring" to further other goals that have nothing to do with wetlands; and
5) Continually work to improve and expand your knowledge of wetland definitions, values, functions, and the regulations that protect these valuable landforms. ▾ ▾ ▾

Chapter Five

Nonregulatory Wetland Protection Techniques

- **Binding Nonregulatory Approaches**
- **Voluntary Nonbinding Programs**
- **The Citizen's Role in Nonregulatory Protection Programs**

Wetland regulations are critical to the protection of Michigan's wetland resources. However, supplementing these regulations with nonregulatory techniques can increase their effectiveness. There are a variety of nonregulatory techniques that can be initiated by individual citizens, conservation and environmental organizations, and units of government. Nonregulatory techniques can be either binding or nonbinding, but all require cooperation and support on behalf of the landowner and the community.

Binding Nonregulatory Approaches

Many nonregulatory approaches can effectively protect wetlands in perpetuity. Others provide renewable temporary binding agreements. Seven such techniques are discussed here, including land donation, conservation easements, deed restrictions, purchase, eminent domain, tax incentives, and wetlands restoration initiatives.

DONATION

Where a private foundation or governmental agency is interested in maintaining wetlands in their natural state, the donation of wetlands is the most direct and efficient method of wetland protection. A donor's gift of land is tax deductible if it is made to a statewide or local land trust, governmental entity, or any other charitable nonprofit organization under Section 501 (c)(3) of the Internal Revenue Code. Each donation of land has different tax advantages for different individuals. Different types of taxes (e.g. real property taxes, gift taxes or income taxes) are affected differently in each situation. Landowners considering donation of wetland property should be encouraged to retain a tax attorney or accountant to analyze the tax consequences for his or her particular situation.

CONSERVATION EASEMENTS

Conservation easements can be used to transfer certain rights and privileges concerning the use of land or a body of water to a non-profit organization, governmental body, or other legal entity without transferring title to the land. In Michigan, the Conservation and Historic Preservation Easement Act (P.A. 197 of 1980) authorizes the creation of voluntary conservation easements. A conservation easement under Act 197 can provide limitations on the use of, or can prohibit certain acts on, a parcel of land or body of water. The interest can be in the form of a restriction, easement, covenant or condition contained in either a deed, will, or other instrument. The easement should require that the land or body of water be retained or maintained in its natural, scenic or open condition, or in a specific use such as agriculture, open space or forest.

The easement is enforceable against the owner of the land or water even if the party seeking enforcement was not a party to the original conveyance or contract. The easement is considered a conveyance of real property and must be recorded with the register of deeds in the appropriate county to be enforceable against a subsequent purchaser of the property who had no notice of the easement.

As with land donations, the granting of a conservation easement may result in tax benefits to the grantor. Again, a person considering granting a conservation easement should contact an attorney or accountant for an analysis of possible tax benefits, as well as their local government for information about local regulations that may apply.

DEED RESTRICTIONS AND COVENANTS

Deed restrictions are clauses placed in deeds restricting the future use of land. When property containing wetlands is transferred, deed restrictions can prohibit uses or activities by the new owners that would destroy, damage or modify wetlands. The Conservation and Historic Preservation Easement Act allows for deed restrictions along with easements.

When land is donated or devised, the donor may include a reverter clause providing that the property must be returned to the original owner or to a third party capable of maintaining the land in accordance with the restrictions (such as a non-profit land trust or government body) if the land is not managed according to the restrictions.

A covenant is a contract between a landowner and another party stating that the landowner will use or refrain from using their land in a certain manner. Like a deed restriction, a covenant can require that landowners refrain from activities that will damage wetlands. Once placed in deeds, covenants become deed restrictions.

PURCHASE

Acquisition of wetland property is a straightforward but costly method of protecting wetlands. Acquisition of property by public agencies ensures public access and public control of wetlands. Because acquisition does not involve regulation, it is a politically attractive alternative. However, in addition to the cost factor, acquisition of wetlands alone does not always guarantee protection in perpetuity. Without restrictions, a unit of government may decide to convert the wetland to an alternate public use (e.g. a golf course), adjacent wetlands may be destroyed thus impacting the "protected" area, and agencies with superior powers could engage in activities that would destroy the wetland (e.g. a federal hydropower project).

If the decision is made to purchase wetlands, the purchaser should consider all the options, including purchase of fee simple title, easements and development rights, bargain sales and other purchasing methods. A fee simple purchase provides the purchaser with more permanent control and protection, but a less than fee simple purchase (such as purchase of an easement or development rights) has numerous advantages. First, a less than fee simple purchase is less costly, and second, the original owner retains title and continues to pay taxes to the local community (although the assessment may be reduced). Innovative purchasing methods should also be considered by the seller. The bargain sale provides large tax incentives to the seller while reducing the purchase price for the buyer. An option contract may also be a useful mechanism.

One of the major impediments to the purchase of wetlands is the financial burden. However, there are several state and federal programs designed to provide capital for the acquisition of land for public benefit. The following is a list of several possible sources of funds for wetland purchases.

1) **Private Sources:** Donations from private individuals or corporations in the form of specific property or money can be used to acquire wetlands. This would include grassroots fund raising efforts from local citizens, lake associations and other community groups.

2) **Nonprofit Organizations:** The Michigan Chapter of The Nature Conservancy, Michigan Nature Association, Grand Traverse Regional Land Trust, Natural Areas Council of West Michigan, Michigan Audubon Society, Little Traverse Conservancy, Ducks Unlimited, Southwest Michigan Land Conservancy, and other organizations can be potential funding sources. The Michigan Chapter of the Nature Conservancy maintains a list of local land trusts.

3) **Local Municipalities:** Many local governments are willing to fund wetland acquisition program since many of the values that wetlands provide directly benefit local municipalities and their residents.

4) **Federal Sources:** There are numerous federal programs that are designed to support wetland acquisition across the country. The following have been used to purchase wetlands in Michigan.

   a) The Federal Land and Water Conservation Fund provides monies to the state to buy open space lands which may contain wetlands. Contact the MDNR Office of Budget and Federal Aid.

   b) U.S. Fish and Wildlife Service grants under the Pittman-Robertson Act (16 U.S.C. 699) provide funds to the state for acquisition of wildlife areas and wildlife restoration. Funds are from a tax on ammunition and weapons. Contact the MDNR Wildlife Division.

   c) U.S. Fish and Wildlife Service grants under the Dingell-Johnson Act (16 U.S.C. 777) provide funds to the state to cover 75% of the cost of fish restoration and management projects. Funds are derived from a tax on fishing equipment. Contact the MDNR Fisheries Division.

   d) The Coastal Zone Management Act (16 U.S.C. 1454) provides funds for acquisition of coastal estuarine sanctuaries, including the Great Lakes. Before funds are granted, each state must have an approved coastal zone plan. For more information, contact the MDNR Land and Water Management Division.

5) **State Sources:** The following Michigan programs can be used to provide funds for

wetland projects.

a) The Michigan Natural Resources Trust Fund provides a possible source of money to purchase recreational, scenic and environmentally important land in Michigan. Applications can be obtained from the MDNR Recreation Division and must be submitted to the fund for approval by April 1 of each year.

b) Proceeds from Michigan Duck Stamp sales and contests go to purchase of wetlands by the State. Contact the MDNR Wildlife Division.

EMINENT DOMAIN

Eminent domain is the power of federal, state, or local municipal governments to take private property for public use. This power is founded in both the federal and state constitutions. This is the same power that allows regulatory agencies to "take" land as a result of regulations. However, the power is limited to taking for a public purpose and prohibits the exercise of the power without just compensation to the owner of the property which is taken. The private wetland owner's power is severely restricted—he or she must sell. Although this mechanism is available, it is politically unattractive and very costly. As a result, government entities seldom use it to protect resources. For a further discussion regarding regulatory takings, see Chapter Seven.

TAX INCENTIVES OR PRIVATE LANDOWNER SUBSIDIES

Several existing programs provide economic incentives for landowners to protect and enhance wetlands. Essentially, these programs provide tax reductions in return for short term wetland "easements" to encourage farmers to protect wetlands.

On the federal level, these include the Water Bank Program (16 U.S.C. 1301-1311) and the Conservation Reserve Program (16 U.S.C. 3831). Both programs are administered by the U.S. Department of Agriculture's Agriculture Stabilization and Conservation Service. The programs offer financial payments to farmers who enter into 10 year agreements not to destroy wetlands through agricultural practices. In addition, the Swampbuster provisions of the 1990 Food Security Act (16 U.S.C. 3821-3823), eliminate federal subsidies to farmers who convert wetlands for agricultural purposes. Although the combination of these incentive and disincentive programs help to protect wetlands, the protection provided is by no means permanent.

On the state level, Michigan's Farmland and Open Space Preservation Act (P. A. 116 of 1974) provides tax breaks for landowners who agree not to develop land. As wetlands constitute open space, protecting them would allow a farmer to qualify for the tax relief. However, as in the federal tax incentive programs, the agreements between the individual and the state are for a 10 year period.

WETLAND RESTORATION PROGRAMS

In addition to protecting existing wetlands, the federal programs listed above provide incentives to restore previously degraded wetlands. If Michigan is to regain the ecological integrity of its wetland resource, thousands of acres must be restored. Although the science and methodology of wetland restoration is rapidly evolving and somewhat controversial, simple techniques such as plugging drains or busting up field tiles can successfully restore wetlands in agricultural areas.

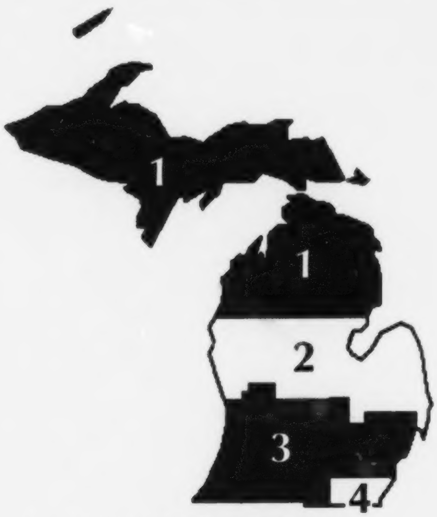
In Michigan, the wetlands restoration efforts have been initiated and coordinated by the U.S. Fish and Wildlife Service (FWS) with the cooperation of several nonprofit organizations, including the Michigan Wildlife Habitat Foundation, West Michigan Wetlands Foundation, and the Wetlands Conservation Association. Funding is provided by the FWS, agricultural agencies, and private donations. Field work is provided by professional staff from the FWS and the nonprofit organizations, and volunteer personnel. The programs seek out degraded wetlands on private property that can be easily restored. Many of the wetlands projects are on lands enrolled in the Conservation Reserve or Water Bank Programs. Typically, there is little or no cost to the landowner. To provide long term protection, the organizations involved also take conservation easements on wetlands that are restored. Call the FWS local private lands coordinators (Figure 1) or one of the organizations mentioned above for more information (See Appendix A).

On the state level, the MDNR is developing a wetland restoration strategy to rebuild Michigan's wetland resource. The strategy, still in its formative stages, seeks to create a broad base of support to ensure the initiation and coordination of innovative and successful restoration projects. Initial input for the strategy was gathered from realtors, business associations, regulatory officials, and conservation and environmental organizations. The strategy will be integrated into Michigan's statewide wetlands management plan which is currently being developed.

Voluntary Nonbinding Programs

The nonregulatory approaches listed above provide binding mechanisms to protect wetlands for either the short or long term. In addition to these mechanisms, there are several approaches that encourage wetland protection in a nonbinding, nonregulatory manner. These programs serve to educate landowners and provide public support for the need to protect wetlands.

U.S. Fish and Wildlife Service Private Lands Coordinators



1. **Seney National Wildlife Refuge**
   (906) 586-9851
2. **Shiawassee National Wildlife Refuge**
   (517) 777-6590
3. **Ecological Services Field Office**
   (517) 337-6650
4. **Ottawa National Wildlife Refuge**
   (419) 898-0014

MICHIGAN NATURAL AREAS REGISTRY

The Michigan Chapter of The Nature Conservancy promotes the preservation of important natural areas, including wetlands, through voluntary nonregulatory agreements between landowners and The Nature Conservancy. The Michigan Natural Features Inventory (MNFI), a program partially supported by funds from The Nature Conservancy, provides a listing of significant natural areas in the state. The Nature Conservancy staff provides outreach to the landowners of significant areas to develop positive relationships and voluntary protection agreements. To qualify for the Registry, a property must be either ecologically significant, such as an unusual wetland or old growth forest, or be a relict plant community (survivors from climates and ecosystems of the past) or be habitat for rare, threatened or endangered plants or animals. The Nature Conservancy should be contacted concerning properties which might be eligible for registration.

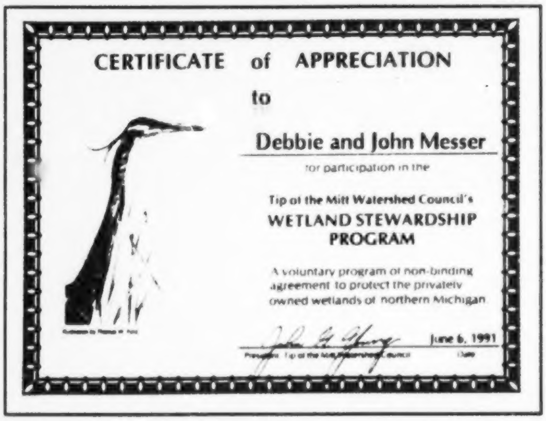
NATURAL HERITAGE STEWARDSHIP AWARD PROGRAM

Coordinated by the Michigan Natural Features Inventory, this program promotes the voluntary preservation of endangered or threatened species and their habitat. Currently, the program focuses on threatened species that inhabit the Great Lakes shoreline and interdunal swale wetlands, including Houghton's goldenrod, dwarf lake iris, and Pitcher's thistle. The program uses information from the MNFI to target properties which may have significant habitat. The purpose of the project is to contact landowners and provide information regarding how to protect and enhance significant habitat areas either on their property or on nearby state land. Since wetlands are the home for more endangered and threatened species than any other landform, this program can help to raise awareness and encourage proper stewardship of wetland areas.

WETLAND STEWARDSHIP PROGRAMS

In northern Michigan, the Tip of the Mitt Watershed Council has developed a Wetland Stewardship Program to involve landowners in wetland protection who may not be willing or ready for permanent protection. The Watershed Council has identified wetland owners in their service area and encouraged them to become wetland stewards. The goal of the program is to protect wetlands through voluntary commitments from the owners of the resource.

The Watershed Council Wetland Stewardship Program promotes the protection of wetlands through voluntary, non-binding agreements between wetland owners and the Watershed Council. The wetland steward agrees not to drain, dredge or fill, or in any other way destroy his or her wetland. They also agree to notify the Watershed Council when they plan to sell the land or if they decide not to participate any longer in the Stewardship Program.



CERTIFICATE of APPRECIATION

to

Debbie and John Messer

for participation in the

Tip of the Mitt Watershed Council's

WETLAND STEWARDSHIP PROGRAM

A voluntary program of non-binding agreement to protect the privately owned wetlands of northern Michigan

June 6, 1991

President, Tip of the Mitt Watershed Council

Date

Wetland Stewardship programs can promote the protection of wetlands through voluntary nonbinding agreements.

In return for becoming a Wetland Steward, the Watershed Council provides assistance regarding land management, advice on other protection measures, and a certificate of appreciation. Hopefully, the wetland stewards also receive the satisfaction and pride which come from knowing they have helped protect Michigan's wetlands.

The Citizen's Role in Nonregulatory Protection Programs

Just as citizens are critical to the regulatory process, individuals or local wetland protection teams can be essential in promoting nonregulatory protection. A local wetland protection team can initiate acquisition, conservation easement, or restoration programs in their community, obtain information and assistance on protection techniques, and work with state agencies or The Michigan Chapter of The Nature Conservancy to promote acquisition projects. In addition, local wetland teams can promote management and protection through wetland stewardship programs or other landowner award programs.

The Grass River Natural Area (GRNA) in Antrim County is an example of a successful cooperative wetland purchase effort. The GRNA is managed by a local nonprofit organization along with the Antrim County Board of Commissioners and provides the opportunity for thousands of visitors each year to experience wetlands. With the assistance of The Nature Conservancy and the Soil Conservation Service, about 1,000 acres of land were acquired by purchase, direct donation from individuals, and by transfer from the State of Michigan. The Three Lakes Association was the original sponsor of the project and has continued its involvement throughout.

There are numerous similar projects throughout Michigan that were made possible by dedicated local citizens who initiated the efforts. Grassroots education to provide public support and the involvement of numerous agencies and organizations were also key to their success. ▾ ▾ ▾

Thomas Kachadurian/Traverse, the Magazine

The Grass River Natural Area provides the opportunity to experience wetlands first hand.

Chapter Six

Education

- **Mechanisms and Materials**
- **Target Audiences**

Wetlands are some of Michigan's most valuable landforms. However, the functions and values that wetlands provide are poorly understood by the vast majority of Michigan residents. Education is an integral part of any successful wetland protection program. Informed citizens will serve to raise the overall awareness about wetland values and functions and generate public support for wetland protection efforts. Wetland protection advocates are critical in providing information regarding wetland functions, values, and regulations to the other members of their communities. Citizens can focus in the following topic areas to help protect wetlands through education and awareness raising:

1) *Knowledge and information about the functions and values of wetlands;*
2) *Wetland policies, including legislation and regulatory guidelines;*
3) *Opportunities for involvement in the process of planning, regulation, and management of wetland resources;*
4) *Possible incentive options to achieve wetlands conservation; and*
5) *Effective restoration, protection, and management techniques for wetland resources.*

In each of these topic areas, wetland protection advocates must consider the appropriate educational mechanisms and target audiences.

Mechanisms and Materials

There are many educational materials and mechanisms available to the citizen wetland protection advocate. In situations where mechanisms are not currently being used, individuals, local wetland protection teams, or environmental organizations can successfully adapt mechanisms in practice elsewhere. The list below provides an overview of existing educational mechanisms and materials.

1) **Newsletters:** Newsletters can be effective in sharing information between people or groups regarding wetlands. Newsletters such as *Great Lakes Wetlands* carry articles on recent research findings and policy issues. Most environmental organizations in Michigan involved with wetland protection publish periodic newsletters that often contain information relevant to wetland protection. For example, Clean Water Action produces the "Clean Water Report," a monthly newsletter that focuses on water quality issues.

2) **Publications:** Many government and nongovernment agencies publish informational booklets and brochures regarding wetlands and wetland protection. These publications serve as excellent resources.

3) **News Media:** Newspapers, radio, and television news play a very important role in informing the public about various issues and forming public opinion. Although the quest to get a "good scoop" on behalf of news media can tend to result in a less than thorough treatment of an issue, wetland advocates can utilize the media to focus on wetland protection. Citizens can provide the media with press releases about recent newsworthy wetland events, provide pertinent "human interest" pieces on wetland values and functions, and encourage editorials in support of wetlands protection. In situations where a particular paper presents wetland issues in a less than thorough manner, citizens can respond with letters to the editor or guest editorials. Conversely, citizens should also take the time to compli-

Newspapers play a very important role in forming public opinion.

ment thorough coverage of wetland issues. Organizations involved in wetland protection should develop a good working relationship with local media, which will help to ensure that wetland stories are reported in a fair and technically sound manner.

4) **Radio and Television Public Service Announcements:** As part of their licencing requirements, radio and television stations must devote a certain portion of their broadcast time to public service announcements. Wetland protection advocates can use this mechanism to educate the general pubic regarding wetland values and protection. Radio stations will usually read a written public service announcement on the air. Community access cable stations may provide free training and use of video production equipment. Corporate sponsors can be obtained to help cover professional production costs and broadcast rates during prime time viewing hours.

5) **Television and Video:** Video is a very powerful public education tool. Although there are several wetland videos available, there is a grave need to develop educational video materials. Once developed, educational videos can be aired on community access television or viewed by various groups throughout the state. In addition, wetland protection advocates can encourage local commercial broadcast stations to provide quality programing regarding wetland functions and values. There are many opportunities for cooperation between the private sector, nonprofit organizations, and government on the production of educational wetland videos.

6) **Curricula Programs:** Programs that provide complete educational materials and clear implementation strategies have been well received by teachers and school systems. Classroom materials on wetland values and functions are widely available. Educational curricula that provides students with an opportunity to solve problems related to wetland protection or read about how other people have protected wetlands helps students develop skills that they can use to protect wetlands in the future.

7) **Workshops:** Both government agencies and non-governmental organizations can conduct workshops to educate the public, local officials, developers, or wetlands activists about programs to protect wetlands. Interactive workshops provide an opportunity for participants to ask questions and engage themselves in the material. Workshops that are cooperatively sponsored by different entities (e.g. environmental organizations and regulatory agencies) can have wide appeal to different target groups and help to build wetland protection coalitions. For a workshop to be successful, the information presented must be relevant and tailored to the audience. There are several professional wetlands training firms in the United States that provide technical wetlands courses. In addition, professional conferences provide the opportunity to present programs or attend workshops.

8) **Demonstration Projects:** Practically any ongoing wetland protection and management practice can be turned into a demonstration project. Successful restoration projects can be used to demonstrate the techniques to other landowners that are considering wetland restoration. To be most effective, the projects should be presented through either on-site workshops or detailed publications. They should be done in such a manner that the critical practices are clear, including ways in which those practices can be replicated in other situations.

9) **Wetland Manuals for Decision Makers:** Many officials, elected or appointed, are often unaware of laws, policies, regulations, plans, programs, authorities, references, or incentives covering wetlands use and management. Wetland protection advocates can develop an educational manual for elected officials in their community. In addition to the items listed here, the manual should include suggested improvements to wetland management.

10) **"Adopt a Wetland" Programs:** Several organizations in Michigan have initiated waterbody adoption programs. Although the exact nature and focus of these programs varies, they all provide the opportunities for local citizens or youth groups to "adopt" an

aquatic resource and act as environmental stewards. By extending these programs to wetlands, citizens will learn more about a particular resource, and be more motivated to protect it.

11) Field Trips: The ecology, functions, and values of wetlands can be best appreciated when experienced first hand. Field trips to local wetlands can provide excellent opportunities to learn about all aspects of wetlands in a manner that encourages individuals to appreciate their unique qualities.

Andrew Savagian

Wetlands provide excellent outdoor classrooms to teach practically all key concepts of ecology.

12) Phone Hotline: The EPA has set up a toll-free phone number (1-800-832-7828) which citizens, developers, and/or local government officials can call for information about wetland values, existing policy, incentive programs, and the status of wetlands policy and legislation. On the local or statewide level, such a Hotline could be developed and used to provide information specific to wetlands regulations in Michigan, status of individual project applications, or to report wetland violations.

13) Billboards: Public service messages to protect, wisely manage, and value wetlands could be placed on billboards, at transit stops, or on rapid transit lines in both urban and rural areas. Pithy, memorable quotes could convey messages to promote wetland protection. Some examples include: "Wetlands — They're Too Precious to Waste," "Environmentally Safe (Wildlife) Housing in Your Community," or "Wetlands are Not Wastelands." Although this can be costly, some advertising agencies may offer a reduced cost for public service messages.

14) Bumper Stickers (or buttons, iron-on T-shirt decals, sun shields for cars, etc.): These could convey similar pithy, quickly read, memorable ideas about wetlands conservation, to sensitize a broad spectrum of the public to issues, concerns, and remedies.

This list represents a sampling of available materials and mechanisms to educate various target groups regarding wetland protection. Appendix G provides a comprehensive list of materials available throughout the Great Lakes Basin.

Target Audiences

Each community's wetland educational needs will vary. For example, in a community where there have been several unpermitted wetland fills, efforts to educate the contractors engaging in the unauthorized activities would be appropriate. In a township that is about to engage in developing a local wetland protection ordinance, it is essential that the planning commission, township board, and other township officials are well versed regarding wetland protection options and the elements of a sound wetland protection ordinance. To ensure that the next generation is aware of wetlands and supportive of their protection, educational efforts that are directed toward school aged children are critical. Although each situation is different, several ideas regarding educational strategies for critical target audiences are provided below.

1) Landowners: Since wetland owners are ultimately responsible for activities that degrade wetlands, they are possibly the single most important individuals to reach with wetlands education materials. Landowners are being asked to move beyond awareness to personal action, and to accept individual responsibility for preserving wetlands. All landowners should be aware of the standards that regulate activities in Michigan's wetlands. Landowners who are being asked to participate in voluntary protection programs need to be informed about wetland values and the ecological importance of protecting wetlands. In addition, information regarding the financial incentives that can result from permanent wetland protection must be made clear.

2) **Developers and Contractors:** Developers and contractors provide a critical link in the wetland protection process. Although the individual landowners are ultimately responsible, it is usually a developer or contractor who is actually engaging in activities that degrade wetlands. Programs for this target group should focus on regulatory standards and best management practices. Since the relationship between wetland advocates and developers is often adversarial, educational programs or workshops that are jointly sponsored by environmental organizations and members of the development community, or by regulatory staff, tend to be more effective than those sponsored by the environmental groups alone.

Realtors can be instrumental in informing land purchasers about wetland functions, values, and regulations.

3) **Realtors:** Realtors can also be a critical link in the wetland protection process. Realtors can be instrumental in informing land purchasers regarding the functions, values, and regulatory constraints related to wetland property. Local board of realtors meetings provide valuable opportunities to present workshops or programs regarding wetland identification, values, and regulations.

4) **Local Governments:** Local government officials are important target audiences for wetland protection. In situations where municipalities are considering local wetland protection programs or regulations, they will need solid information regarding all aspects of wetland regulation, including functions and values, wetland definitions and delineation methods, and state and federal regulatory standards. Even in those communities that are not considering local wetlands regulation, local government officials play an important role in wetlands protection. Not only are local governments given the opportunity to comment on dredge and fill applications, but their local planning and zoning decisions can have severe impacts on locally significant wetland resources. Efforts to educate local government officials should focus on the wetland values that benefit the local residents (e.g. the cost savings of using intact wetlands for flood prevention). It is also important to remember that there is an extremely high "turnover" rate on local government boards and commissions. As a result, educating this target group is an ongoing process.

5) **Regulators:** It is unrealistic for the citizen activist to expect that those charged with implementing wetlands regulations have expertise in all aspects of wetlands ecology and management. Regulatory staff are seldom granted the opportunity to attend workshops and seminars to enhance their knowledge and skills. Corps and MDNR officials benefit from information provided by wetland advocates regarding local regulations that impact wetland protection, recent scientific advances, and policy changes at all levels. Citizens will benefit by cultivating positive information sharing relationships with the regulatory staff that serve their area.

6) **School Aged Children:** Although school aged children do not normally participate in the protection activities described in this guidebook, they are nevertheless essential target audiences. Educating today's children on wetland values and functions will ensure that tomorrow's voters and professionals make informed decisions regarding wetland protection and management. In addition, not all benefits that come from educating school aged children are realized after a child is grown. It has been shown that a child's awareness of environmental issues also serves to raise the awareness of the adults with which he or she interacts.

The biological productivity and diversity that wetlands represent provide excellent outdoor classrooms to teach practically all key concepts of ecology and biology. Educational programs for school aged children should provide the opportunity to experience wetlands first hand. To help build important decision making and action taking skills, educational programs should provide students with the opportunity to engage in wetland protection activities or provide examples of how other individuals have successfully worked to protect wetlands.

7) **Conservation and Environmental Organizations:** There are many conservation and environmental organizations that are not currently involved in wetland protection. Efforts should be made to provide them with the necessary informational tools to empower them to play a positive role in protecting wetlands. It is critical that even individuals and organizations who are working to protect wetlands continue to raise their level of awareness and understanding of wetland ecology, regulation, nonregulatory protection mechanisms, and successful protection strategies. Each year, numerous professional workshops, courses, and conferences on wetland topics provide valuable education opportunities. As wetland protection advocates gain more expertise, their level of effectiveness and credibility will increase.

8) **The General Citizenry:** Although all the individuals in the target audiences listed above are citizens, there are millions of Michigan residents that don't fall into any of the above categories. Efforts should be made to inform these individuals regarding the values that wetlands provide and the importance of protecting them. This overall awareness raising will provide an informed citizenry that will support regulatory and nonregulatory wetland protection efforts. Mechanisms that have broad public outreach and appeal such as television or print media should be utilized as much as possible.

Whether it is through the reduced risk of flooding, clean water for drinking or swimming, a successful duck hunt, or a peaceful sunset over a marsh, every Michigan resident and visitor benefits from the functions that wetlands provide. Efforts to increase the awareness of wetlands will serve to deepen the appreciation, respect, and protection that wetlands are provided. Citizen wetland protection advocates can initiate these projects on their own, through the work of a local wetlands protection team, or through existing environmental organizations. ▾ ▾ ▾

D. Moore

Wetlands are truly places of discovery.

Chapter Seven

Key Wetland Issues

- The Impact of Wetland Regulations on Economic Growth
- The Impact of Wetland Regulations on Affordable Housing
- Costs of Local Wetland Regulations to Local Government
- Local Wetland Regulations
- The Value of Small Wetlands
- The Value of Buffers
- The Degradation of Wetlands Used as Stormwater Basins
- The Dubious Value of Wetland Classification Schemes
- Wetland Creation Cautions
- The Problems Associated with Wetland Mitigation Banking
- The Difficulty of Quantifying Wetland Values
- Proper Use of Wetland Inventories and Maps
- Inadequate Enforcement of Wetland Regulations
- The Issue of Regulatory Takings

There is no question about it—although practically everyone will say how important wetlands are, the regulation of private activities in wetlands generates controversy. This controversy arises for many reasons, paramount among them the issue of private gain versus public good. This chapter attempts to shed light upon some of the more common controversial issues related to wetland protection. The discussions here are not meant to be comprehensive treatments of the subject matter or to cover all the controversial wetland issues, but rather to serve as "talking points" to prepare the wetland advocate for discussions on these issues.

The Impact of Wetland Regulations on Economic Growth

A common criticism of wetland regulations is that they halt economic development and community growth. Since only ten to twenty-five percent of wetland applications to the state and less than ten percent of the federal wetlands dredge and fill applications are denied (and many of these are reapplied for and issued with modifications), wetland regulations are not "halting" a significant amount of economic development. Granted, there are costs related to the wetland regulatory process, but these costs are minimal compared to the wetland functions and values that would be lost if wetlands were degraded without any regulatory review.

Many municipalities in Michigan with wetland regulations are among the fastest growing communities in the state. Growing municipalities like West Bloomfield and Hayes Townships, and the City of Novi have adopted wetland protection ordinances with no negative impact on economic development. For example, the city of Novi issued over four times as many residential building permits in the five years after adopting an ordinance than in the previous five years.

Protecting wetlands contributes to the development of more liveable communities by providing public benefits such as critical fish and wildlife habitat, recreation opportunities, valuable open space in residential areas, and buffers between incompatible land uses. Residential lots that border on protected wetlands often are more desireable and expensive than other properties. Developers who realize this and integrate wetland protection into their developments have the opportunity to increase their profits.

The Impact of Wetland Regulations on Affordable Housing

Opponents of wetland protection often cite that wetland regulations lead to a lack of affordable housing. Upon closer review, it becomes apparent that the economic costs of regulatory review are minimal compared to other costs. Many wetland development projects are situated on wetlands that are adjacent to lakefront property—some of the most expensive real estate in Michigan. "Affordable" housing projects are rarely proposed for these properties. Furthermore, additional costs of wetland development arise from the site engineering (dredging, filling, etc.) that must be done to prepare a wetland site. These costs can be avoided by appropriately directing development out of wetlands.

Costs of Local Wetland Regulations to Local Government

In situations where a community wishes to provide additional protection to wetlands by enacting local wetlands protection provisions, a common criticism is that the local wetlands regulations are too expensive for the local community to bear. Here are two responses to this argument. First, the many different local wetlands protection options involve different levels of resources. The local unit of government can select an option that is compatible with existing or foreseeable resources.

Second, there are ways in which to structure the ordinance so that the financial burden of the regulatory process is borne by those seeking to degrade wetlands. This can be done by charging application and processing fees that cover the costs of the regulatory review, or by the applicant setting up an escrow account to cover the costs. Depending on the project size and complexity, the actual costs of adequate regulatory review could range from less than a hundred to several thousand dollars. As long as the escrow is set at an adequate amount, the local government does not have to pay excess costs in complex cases that involve extra administrative work. Any money left in the escrow account after regulatory review can be returned to the applicant or put towards performance guarantees for any mitigation. In addition, the escrow account can be set up so that added funds must be supplied by the developer if the permit process is to continue.

Local Wetland Regulations

To some special interest groups, the very concept of local wetlands protection regulations is a controversial issue. The reasons they criticize local wetlands ordinances are varied. Below, a few of the most common criticisms of local wetlands ordinances are presented, and a short response is provided.

Opponents of local wetlands regulation say that municipal wetlands regulation has all too often been unreasonable, excessive, and administered with lengthy delays and multiple hearings. Although this may be possible in isolated instances, these claims have not been substantiated with any factual information or convincing statistics. In addition, if these ordinances were in fact legally excessive and administered with lengthy delays, a history of litigation would be expected. This has not been the case.

Opponents of local wetlands regulations have also stated that the local control of wetlands is used for economic and racial exclusionary purposes, and that local wetlands boards are composed of lay people who do not have an environmental or technical background. There has been no data presented to support the first claim. In regards to the second point, local boards who make decisions on all local land use issues are seldom land use professionals. Accordingly, these boards rely on the findings and recommendations of professional staff. In the case of wetlands regulations, local wetlands boards often pay for professional wetland consultants with escrow accounts set up and paid for by the applicant. The information upon which the boards base their decisions is thus gathered in a technically sound and professional matter.

The desire for uniform statewide wetland regulations has also been used as a justification by some interest groups to support the preemption of local wetlands ordinances. Land use regulations are not uniform across the state because land is not uniform across the state, nor are local concerns. Removing the authority of local municipalities to regulate wetlands in their jurisdiction ignores this simple fact.

Another criticism of local wetlands regulations is that of the duplication of permits. Depending on the type of local wetlands regulation, two wetlands permits may in fact be required before work that degrades wetlands can begin. Opponents of local wetlands regulation state that this creates undue time and cost constraints. Supporters of local wetlands regulation usually respond with one of three comments: 1) the cost is minimal compared to the costs of the wetland functions that are lost when wetlands are destroyed; 2) local wetlands review can be (and often is) integrated into the normal zoning review process and therefore does not add an additional permit or a time constraint; and 3) wetlands provide values that are both important to the local municipality, the state, and the country as a whole, and as a result, local, state, and federal permits should all be required for activities that degrade wetlands.

The debate over local wetlands regulations has resulted in legislative efforts to preempt the ability of local units of government to regulate wetlands. This debate is likely to rage on well into the future.

The Value of Small Wetlands

Michigan's wetland protection law, the Goemaere-Anderson Wetlands Protection Act (P.A. 203 of 1979), exempts numerous small wetlands that are isolated from surface waters. This was not due to some finding by the legislature that small wetlands are not valuable, but rather a political compromise made to pass the bill. Small wetlands can be extremely important ecological resources for many reasons, including flood storage and endangered species habitat. Recognizing this, and realizing that varying ecological systems might require local management of wetlands, the original drafters of P.A. 203 wisely authorized local governments to have the legal authority to protect these valuable resources. Although the Act does authorize the MDNR to regulate small isolated wetlands if a determination is made that the wetland is important for the protection of natural resources in the state, the MDNR rarely implements this provision. The fact that locally important wetlands can be best managed by local municipalities is as true today as it was in 1979. For this reason, among others, the enactment of local ordinances should be promoted to protect wetland resources not adequately protected by state law.

The Value of Buffers

One of the shortcomings of the Goemaere-Anderson Wetland Protection Act is that it fails to protect ecological buffers between upland activity and wetlands. The ecotone that occurs at the boundary between wetland and upland serves as important wildlife habitat and is important to water quality by attenuating silt and contaminants associated with runoff. Other states' wetland regulatory programs protect this important zone.

Under the current state and federal regulations in Michigan, earth change activities can occur to the edge of a wetland without a permit. With this sort of development, the ecological benefits of the buffer zone are lost and the wetland is directly impacted by the adjacent development. Local wetlands ordinances and amendments to Act 203 should strive to protect wetland buffer zones. In addition, local zoning requirements such as building setbacks or required vegetated strips can be used to effectively protect wetland buffers.

The Degradation of Wetlands Used as Stormwater Basins

One of the most useful natural functions of wetlands is that of maintaining the water quality of lakes, rivers, and streams by removing silt and other contaminants from runoff. This natural function is sometimes put to work to treat stormwater before it is discharged to surface or groundwater. Although this seems like a good "use" of wetlands, studies have shown that stormwater discharge to natural wetlands can alter the hydrology, water quality, topography, vegetation, and biological communities.

For these reasons, direct discharge of stormwater to natural wetlands should be avoided. The negative impacts of stormwater on natural wetlands can be reduced through the use of retention ponds located in uplands or the conveyance of stormwater through grass lined swales. These mechanisms help to remove the sediment and pollutants from the stormwater before it enters the wetland, and can serve to minimize damage due to hydrologic changes. Furthermore, artificial wetlands can be created specifically for the purpose of stormwater management. In this case, there are no issues regarding adverse impacts on natural wetlands, as the artificial wetlands are created and managed for this purpose. Additionally, the wetlands that are created provide functions and values not provided by other means of stormwater management.

The Dubious Value of Wetland Classification Schemes

The term "wetland classification" has been used to represent two different concepts. In one, a wetlands classification scheme developed by the U.S. Fish and Wildlife Service is used as a sort of taxonomical key to describe different wetland types. Alternatively, as in this discussion, wetland classification refers to the concept of "classifying" wetlands into ranked categories based on their functions and values to society, and basing the amount of protection provided to these wetlands on these rankings. In efforts to "streamline" wetlands regulations, this concept of classification is presented as an attractive mechanism to focus regulatory efforts on wetlands with a "high" ranking. However, there are several problems with wetlands classification that question its benefits to wetlands protection.

First, there are likely to be biases in the ranking criteria. Given the variety and abundance of species using wetlands, how does one rank various types of habitat against each other? Are marshes better than swamps? Is variety or abundance "better" than a rare or endangered species? In regards to functions, is the urban wetland that traps sediment from entering the Rouge River more "valuable" than a ceder swamp that is used by deer for winter cover in the Upper Peninsula? It is extremely difficult to answer these questions in an objective manner.

Second, most functions are not easily assessed. All wetlands serve multiple functions to some extent, and their values depend on how they are situated in the landscape and the characteristics of the watershed. To accurately measure all the functional values of each wetland would be prohibitively expensive and administratively impossible. However, without accurate functional assessments a classification scheme falls apart. Another way to look at this is to consider the context of the functional evaluation. In the context of permit review, the direct impacts of the proposed project on wetland functions can be assessed. Outside of the context of specific activities in specific wetlands, functional evaluation becomes extremely subjective.

The third, and perhaps most controversial issue related to wetlands classification, is the concept of providing unequal protection to different classes of wetlands. Potentially, wetland classification could be used as a mechanism to eliminate protection for "lower" classes of wetlands, or to weaken protection so it is rendered ineffective. All wetlands provide some functions valuable to society. Given that Michigan has lost over half of its pre-settlement wetlands, schemes that would promote the degradation of more wetland acreage, regardless of the type and "value," should not be promoted.

In addition to these, any classification scheme will have to be linked to some sort of detailed inventory initiative. Given the problems inherent with inventories, and the difficulty of developing a classification scheme and applying that scheme to a particular wetland, wetlands classification would add time delays and costs to wetland regulations.

Wetlands Creation Cautions

The concept of creating wetlands has been put forth as a way to solve practically all problems with wetlands regulation. The distinction between wetland creation and wetland restoration is important. Wetland restoration refers to the rehabilitation of wetlands that have been degraded or hydrologically altered. Wetland creation refers to the construction of wetlands where they did not exist before.

The three most common reasons for wetland creation in the United States are wastewater treatment, coal mine drainage control, and replacement of wetland loss. In Michigan, the most common reason has been for the mitigation of unavoidable losses through state and federal wetland permitting programs. There has been little follow-up of these mitigation creation projects and there are few methods available to determine the "success" of a created wetland in replacing the functions lost with the destruction of the original wetland.

Like wetlands properly created and managed for the purpose of stormwater management, wetlands created for the purpose of wastewater treatment add to the existing resource base and represent a positive way for humans to utilize the functions that wetlands provide in a positive manner. The critical issue of wetland creation is in regards to mitigating wetland losses. The creation of wetlands where they did not exist before can be extremely costly and has been shown to have a low rate of success from an ecological perspective. For these reasons, wetland creation should only be used to offset wetland losses when there are absolutely no other alternatives. In addition, there must be stipulations to ensure that the losses are appropriately replaced by the creation project, including requiring a minimum of two acres of created wetlands per every one acre lost (since at least half of the creation projects fail in some way), monitoring and maintenance provisions, and financial commitments (bonds or escrow accounts) to ensure that the project is successful in the long term.

The Problems Associated with Wetland Mitigation Banking

"Wetland mitigation banking" is a term used to refer to the creation, restoration, or enhancement of wetlands by a developer to serve as a "bank" with "credits" to compensate for future wetland impacts. The concept of the mitigation bank is attractive to landowners, developers, and economists as it integrates a market-based element into wetlands regulation. The concept has generated much debate since its inception.

On the positive side, mitigation banks can encourage the creation, restoration, and enhancement of large wetland areas, which generally have a lower cost per acre than smaller wetland restoration projects. Mitigation banks also provide a greater flexibility to developers, whereby instead of designing and implementing their own mitigation plans, they can purchase or use existing credits.

On the other hand, mitigation banking projects have many disadvantages. Mitigation banks often encourage the cheapest and easiest wetland creation, enhancement, or restoration projects. Thus, marshes or shrub-scrub swamps are created to mitigate for the loss of other wetland types. This loss of one wetland type for another does not benefit the state or nation's severely degraded wetland resource. Furthermore, wetland mitigation projects are seldom successful. In a recent Florida study, only 4 freshwater wetland mitigation projects were deemed ecologically successful out of 57 inspected by the Florida Department of Environmental Regulation.

To a large extent, wetlands derive their values from their location in the landscape and their relationship with other wetlands and waterbodies. Mitigation banks replace wetlands lost in one location with wetlands located in another. Many wetland functions are site-specific and are lost when the wetland is destroyed. These cannot be replaced by wetland credits in a mitigation bank at some other site. This disadvantage is amplified by the fact that mitigation banks would encourage developers to propose off-site mitigation, as this sort of mitigation is less expensive than performing on-site and in-kind mitigation.

In the regulatory process, the existence of mitigation banks may allow developers to exert considerable pressure on regulatory agencies to forego thorough alternatives analysis and impact avoidance. Developers may argue that because mitigation is achieved through their "credits" in the "bank," they should receive a permit to dredge or fill wetlands that otherwise may not be issued.

As permits are reviewed, applicants should always be subject to restrictions in which all alternatives are utilized to first avoid, then minimize, impacts on wetlands. In the case of unavoidable wetland impacts, mitigation for wetland impacts should be done in accordance with the Goemaere-Anderson Wetland Protection Act and Section 404 of the Clean Water Act (See Chapter Three and Appendix C). Furthermore, the creation, enhancement, or restoration of wetlands for mitigation should only be permitted if the proposal includes features that ensure its success.

The Difficulty of Quantifying Wetland Values

A few words should be said regarding the issue of quantifying wetland values. Although wetland functions and values are accepted and even lauded by scientists, environmentalists, developers, politicians, and the general citizenry, actually quantifying those values in economic terms is difficult. The tools of economics prove to be inadequate when considering wetlands values for many reasons.

First, different wetlands provide a variety of functions that have many different values. Attempting to put an economic value on a wetland presents the problem of comparing and weighing vastly different commodities, while at the same time trying to assess how the values may compete (e.g. peat mining v. photographing orchids). Additional complexity is added when the evaluator attempts to compare the value of an intact wetland with an alternate use such as a shopping mall development. Although conventional economics attempts to solve this problem by reducing everything to dollars, this is practically impossible given that many wetland "products" do not compete in the marketplace.

Second, the generalized "law of supply and demand" falls apart when considering wetland values. For example, habitat values are in many cases more dependent on the location and size of the individual wetland rather than overall quantity.

Third, commercial values are short term, whereas wetland functions provide long term values. From a purely economic point of view, most investors seek to retrieve their investments in ten to twenty years, and seldom consider long term implications. Given this, a decision based solely on economic valuation may support wetland destruction. However, once a wetland is converted, its functions and values are lost to society forever. This simple fact is seldom, if ever, factored into the economic valuation of a project that seeks to alter wetlands.

The last, and probably the most significant when considering wetland protection, is that most valuable products of wetlands serve the public but have little or no commercial value for the individual wetland owner. For example, individuals downstream enjoy the water quality and flood prevention benefits from intact wetlands upstream. The upstream wetland owner may have difficulty quantifying these benefits to his or herself.

Often, there is conflict between what is in the public interest and what the landowner feels is in his or her best economic interest regarding the use of wetlands. Many of the current wetland regulations at the local, state, and federal level were developed to protect the public's interest in privately owned wetlands.

Proper Use of Wetland Inventories and Maps

Wetland inventories and maps can be extremely useful items, if their inadequacies are understood. Chapter Two discusses the wetland maps that are widely available throughout the state and their shortcomings. This discussion deals with wetland maps from the regulatory angle.

One of the main criticisms of the implementation of the Goemaere-Anderson Wetland Protection Act is that the mandated statewide wetland inventory has not been completed. On the local level, in practically every attempt to pass a wetlands ordinance, a wetlands inventory has been called for. Wetlands inventories can provide an excellent means by which to inform landowners that they may have regulated wetlands on their property. However, wetland inventories, no matter how comprehensive, are not a viable substitute for on-site investigation of wetland boundaries. Accordingly, wetland inventories serve a very limited regulatory purpose. This is not a problem, as long as the regulated community realizes the limited utility. When wetland inventories are misused or misperceived to serve as delineating the boundaries of jurisdictional wetlands, problems arise. When the state finishes the wetlands inventory, or when a local government produces a wetlands inventory, it is critical that the purpose and its shortcomings be clearly spelled out. Otherwise, individuals may use the excuse, "My wetland is not on the inventory," to avoid the regulatory process.

Inadequate Enforcement of Wetland Regulations

Presently in Michigan, when a violation is identified, the MDNR staff may issue a cease and desist letter to the responsible individual which stipulates required remedies. If the responsible individual complies with the terms of the letter, many times no further enforcement action is needed. If further enforcement action is needed, legal actions to enforce wetlands regulations must be brought about by the enforcing agent, either through the county prosecutor or the Attorney General. Currently, there is a lack of effective court action, primarily for three reasons: 1) the lack of sufficient staff to adequately review permits and enforce the Act, 2) the difficulty of getting appropriate action from county prosecutors, and 3) the work load of the Attorney General's office. If a county prosecutor is unwilling to take the case, and the Attorney General's office does not have the time, MDNR staff are out of options to pursue enforcement.

Hundreds of wetland violations go unaddressed each year.

Furthermore, there are no citizen suit provisions in the Michigan Wetland Protection Act which would allow citizens to file suit in a court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of Michigan's wetland protection statutes. However, citizen suits to enforce Section 404 are authorized by Section 505 of the Clean Water Act. Citizens seeking to use this as a remedy must file suit in federal court. Indirectly, it is possible to use this provision to enforce Michigan's Wetland Protection Act by filing suit in federal court against the EPA for improper oversight of the MDNR's administration of the assumed Section 404 program.

There are a variety of ways to improve the enforcement of Michigan's Wetland Protection Act. Perhaps the most direct would be to increase the staffing levels to the point where a sufficient amount of staff were devoted to enforcement activities. Other improvements include granting the authority for MDNR staff to issue appearance tickets, and authorizing citizens to sue to enforce Act 203. Both of these options would involve amendments to the Act.

Michigan's criminal code allows the issuance of appearance tickets for minor offenses, including misdemeanors, where the maximum penalty is a $500 fine and/or 92 days in jail. The authority to issue appearance tickets would provide the MDNR a viable enforcement tool for minor offenses and to deter minor violations of Act 203. However, there are several concerns that must be addressed when amendments to authorize this tool are introduced. The first is that the definition of a "minor offense" in regards to wetland activities must be clearly defined. The second is that appearance tickets eliminate the possibility of pursuing restoration or further penalties under the criminal code. However, civil action for relief of the same violation would be possible.

Amending the various resource management statutes to include citizen suit provisions provides a way to help ensure that the statutes are indeed complied with and enforced by the enforcing agent. Citizen suit provisions would enable citizens to file for an injunction to restrain or prevent violations of the specific statutes, and to require restoration of ecosystem damage. Although the Michigan Environmental Protection Act does authorize citizens to sue to enjoin environmental impairment, it is seldom used. Integrating citizen suit provisions into the resource management permitting statutes would make suing for specific performance under a particular statute more straightforward.

The Issue of Regulatory Takings

One of the most contentious aspects of wetlands protection is the "takings" issue. As mentioned in Chapter Five, governments have the power of eminent domain which allows them to "take" property when it is in the public interest and provided that the landowner receives just compensation. In some cases, landowners claim a regulatory taking has occurred when they are deprived of the preferred use of their land due to the application of wetlands regulatory standards. Although these claims resonate with deep-seated American values derived from the Fifth Amendment of the Constitution, the courts have consistently ruled that individual landowners do not have the unrestrained right to engage in activities which adversely impact the public good.

In general, to determine if a regulatory taking has occurred, two findings must be made by the court: 1) that the regulatory statute does not substantially advance legitimate public interests, and 2) the government regulations deny a landowner essentially all economically viable uses of his or her land. Although there is no set formula to determine if a regulation or governmental action constitutes a taking, there are several court cases which help to define this. In two court cases in which the U.S. Federal Claims Court deemed a taking had occurred through the administration of Section 404 of the Clean Water Act, (*Florida Rock Industries v. United States*, and *Loveladies Harbor v. United States*), the landowners had been deprived of 95% and 99% respectively of the value of their land. In Michigan, cases such as *Blue Water Isles, Inc. v. Department of Natural Resources* and *Bond v. Department of Natural Resources* support the MDNR's authority to deny development activities in wetlands pursuant to state regulations.

In the past decade, several legislative initiatives in Michigan have sought to amend the Goemaere-Anderson Wetland Protection Act so that the simple designation of an area as wetlands would constitute a regulatory taking. This concept does not meet the required "denial of all economically viable uses" test, and would diverge significantly from court decisions regarding this issue. The Michigan Court of Appeals has held that the mere designation of property as wetlands by the MDNR does not constitute a taking of the property (*Bond v. Department of Natural Resources* and *Carabell v. Department of Natural Resources*). In *Carabell*, the court established that the test for determining if there was a taking of property was whether the wetlands designation "deprives the owner of an economically viable use of his land," not whether the owner was deprived of the most profitable use of his or her land.

The takings issue has been overinflated in recent years. The Corps processes over 50,000 permits throughout the United States each year. Since the Clean Water Act was passed in 1972, only two permit decisions have been ruled a taking. It is a simple fact that vast majority of wetlands regulatory actions do not deprive the landowner of all economic uses of their land, and thence, a regulatory taking does not occur. The same holds true for Michigan's Wetland Protection Act. Since there are several economic uses which do not even require a permit, it is extremely difficult for a landowner to demonstrate that the designation of an area as wetlands or a denial of a permit for a particular economic use constitutes a taking. ▾ ▾ ▾

Resources

In an effort to enhance readability, the text contains no direct citations or footnotes. However, there were many resources that provided valuable background information either directly or indirectly for the content of this guidebook. These resources are included below. This list of resources will also serve the reader as a bibliography for further reading.

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Appendix A:

Michigan Organizations Involved in Wetland Protection

Across Michigan, there are countless individuals and numerous environmental and conservation organizations working to protect or enhance wetlands. Many of these organizations and individuals have united to form the Michigan Wetlands Action Coalition. The Coalition serves as an informational clearinghouse and communication network for wetlands protection in Michigan.

The purpose of this Appendix is to provide the reader with a brief overview of the organizations that are actively involved in wetlands protection. The organizations listed responded to a questionnaire that was sent to wetland protection advocates across the state. Although there was an attempt made to ensure that all organizations working to protect wetlands were listed, some may have been missed. If you are involved with a wetland protection organization that does not appear on this list, please write the Tip of the Mitt Watershed Council for more information regarding the Michigan Wetlands Action Coalition.

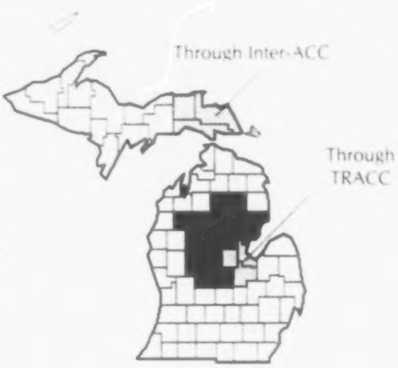
Each organization profile includes address, phone, wetland resource materials on hand, a brief narrative about their activities, and their geographic area. If you are looking for assistance with wetlands protection activities in your region, use the geographic area maps to locate the local organization that serves you. If you are in a region that is not served by a local organization, contact one of the statewide wetland protection organizations. If you are seeking specific expertise or resource materials, use the narrative information or the wetland resource materials key to identify the appropriate organization. ▾ ▾ ▾

KEY to "Resources" and "Materials/Services" Entries

◆ County Soil Survey Maps
▲ National Wetlands Inventory Maps
○ U.S.G.S. Topographic Maps
★ MIRIS Maps
● Wetland Maps Produced Locally
❐ Watershed Maps
✦ Model Local Ordinances
† Other

❖ Slide Shows
▼ Brochures
• Guidebooks
☞ Textbooks
) Videotapes
† Other

Citizens for Alternatives to Chemical Contamination



8735 Maple Grove Road
Lake, MI 48632-9511

Phone (517) 544-3318

Citizens for Alternatives to Chemical Contamination (CACC) primarily serves as a wetland resource protection clearinghouse for citizens. In addition, they have information on pending state and federal legislation.

Resources available: ◆
Materials Services: ▼ •

Clean Water Action

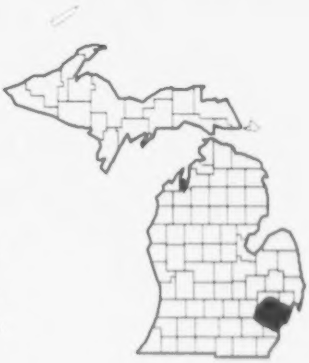
122 S. Grand, Suite 200
Lansing, MI 48933-1179

Phone (517) 487-0900
FAX (517) 487-2262

Clean Water Action (CWA) assists citizens' comments on dredge and fill applications and provides information on wetlands and water quality regulations (and pending legislation) at the state and federal level. CWA works to build coalitions and develop strategies for particular issues, and provides assistance to citizens in preparing comments on legislation and obtaining information from MDNR, legislators, or other centralized sources.

Resources available:
Materials Services: ▼ •

Clinton River Watershed Council



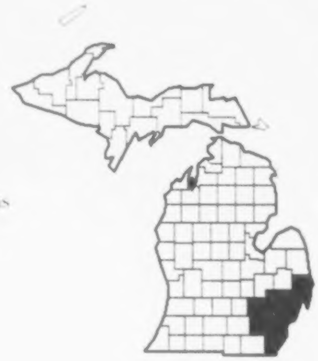
8215 Hall Road
Utica, MI 48317

Phone: (313) 739-1122
FAX: (313) 739-8199

The Clinton River Watershed Council (CRWC) has provided assistance to local governments in regards to wetland protection for decades. The Council conducts river corridor inventories in cooperation with local governments to identify appropriate local government action and has an "Adopt-A-Stream" program which includes associated wetlands. Staff could potentially serve as "expert witnesses" in regards to policy and wetlands regulation issues. CRWC works with citizens to help solve environmental problems and develop strategies to meet environmental goals.

Resources available: ◆ ▲ ✪ ★ ● ⌝ ◆
Materials/Services: ✥ ▼ • ≡ ⁝

Detroit Audubon Society



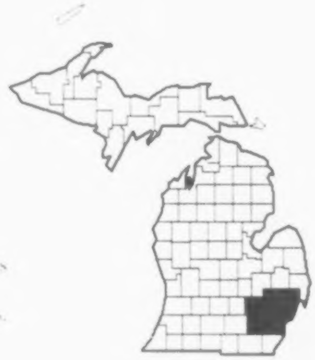
121 South Main Street
Royal Oak, MI 48067

Phone: (313) 545-2929

Detroit Audubon Society (DAS) routinely comments on dredge and fill applications and assists citizens with their comments. DAS will hold conservation easements, accept donated properties statewide, and assist in developing a local land trust. DAS will also assist in site documentation, especially wildlife species.

Resources available: ◆ ● ⌝
Materials/Services: ✥ ▼ •

East Michigan Environmental Action Council



21220 W. 14 Mile Road
Bloomfield Township, MI 48301-4000

Phone: (313) 258-5188
FAX: (313) 258-5189

The East Michigan Environmental Action Council (EMEAC) routinely assists citizens with comments on dredge and fill applications. In special cases, they will also take legal action. In addition to assisting citizens in work on local wetlands issues, EMEAC also provides comment regarding pending local, state, and federal legislation.

Resources available: ◆ ● ⌝ ◆
Materials/Services: ✥ ▼ • ≡

Environmental Protection Council of Oakland County

54 N. Adams, Suite 141
Rochester Hills, MI 48309

Phone: (313) 373-4749

The Environmental Protection Council of Oakland County (EPC) comments on dredge and fill applications and assists citizens with their comments. The EPC actively works with local units of government to develop and implement local wetland protection measures. The EPC will take legal action when necessary and has board members who could potentially serve as "expert witnesses."

Resources available: ◆ ▲ ★ ● ❐ ◆
Materials/Services: ▼ •

Friends of Rose Township

9601 Fish Lake Road
Holly, MI 48842

Phone: (313) 634-7668

The Friends of Rose Township (FRT) comments on dredge and fill applications and assists citizens with their comments. The FRT also provides information about habitat preservation, grassroots wetlands protection initiatives, and educational materials.

Resources available: ◆ ▲ ✪ ★ ◆ ⁝
Materials/Services: ▼ •

Friends of the Crystal River

Crystal River Watershed

P.O. Box 123
Glen Arbor, MI 49636

Phone: (616) 334-4708

Friends of the Crystal River (FOCR) has focused the majority of their work on the Crystal River watershed. FOCR has been involved in the contested case hearing process, circuit court litigation, and EPA oversight of MDNR permitting actions.

Resources available: ◆
Materials/Services: ▼ • ☆

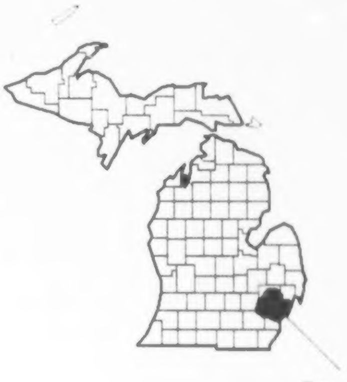
Friends of the Rouge

12763 Stark Road, Suite 103
Livonia, MI 48150

Phone: (313) 427-1234

The Friends of the Rouge (FOR) focuses its efforts on the Rouge River watershed. FOR works with local governments and provides basic information on wetland protection.

Resources available: ▲ ❐ ◆
Materials/Services: ▼ •

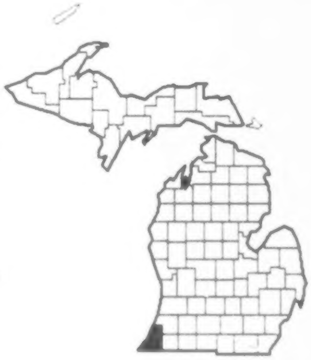


Galien River Watershed Council

P.O. Box 345
New Buffalo, MI 49117

The Galien River Watershed Council (GRWC) routinely comments on dredge and fill applications and assists citizens with their comments. GRWC's educational programs focus on the identification and appreciation of wetlands and other natural resources in the area. They will assist citizens in locating "expert witnesses" and engaging in litigation and contested case hearings. GRWC also has a program to protect wetlands and floodplains through conservation easements, and will assist in developing local wetland protection ordinances.

Resources available: ◆ ▲ ✪
Materials/Services: ▼ • †



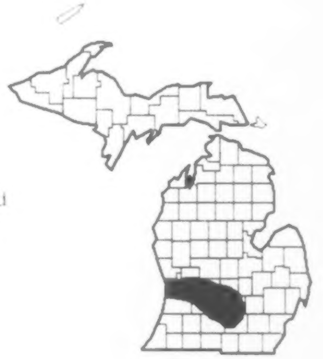
Grand River Preservation Coalition

4642 Abrigador Trail, N.E.
Comstock Park, MI 49321

Phone: (616) 784-6859

The Grand River Preservation Coalition (GRPC) routinely comments on dredge and fill applications and assists citizens with their comments. GRPC will also assist citizens with gathering information on local wetland issues throughout the Grand River Watershed.

Resources available: ◆
Materials/Services: ▼ • ☆

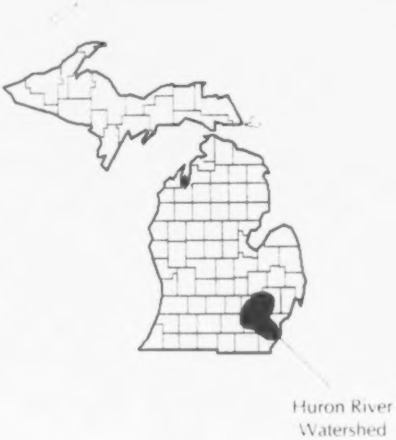


Huron River Watershed Council

415 West Washington
Ann Arbor, MI 48103

Phone: (313) 769-5123
FAX: (313) 996-3218

The Huron River Watershed Council (HRWC) routinely comments on dredge and fill applications and assists citizens with their comments. HRWC's "Adopt-A-Waterway" program encourages and trains citizens to assess watershed land use patterns, develop wetland protection workplans, implement those workplans, and monitor wetland plant and animal populations. They do have staff that could potentially serve as "expert witnesses." HRWC also has a program to protect wetlands and floodplains through conservation easements, and will assist in developing local wetland protection ordinances.



Resources available: ◆ ▲ ✪ ★ ● ┐ ✦
Materials Services: ✣ ▼ • ▫

Lake Michigan Federation

Muskegon Community Foundation Building
425 W. Western, Suite 201
Muskegon, MI 49440

Phone: (616) 722-5116
FAX: (616) 722-4918

The Lake Michigan Federation (LMF) routinely comments on dredge and fill applications and assists citizens with their comments. LMF is coordinating a Wetland Watch group in the White Lake area and is willing to work with citizen groups to initiate additional wetland watch groups.

Resources available:
Materials Services: ▼ •

League of Women Voters of Michigan

200 Museum Drive, Suite 202
Lansing, MI 48933

Phone: (517) 484-5383
(800) 292-5823

The League of Women Voters mainly deals with legislation affecting wetlands, rather than individual wetland cases. The toll free Citizen Information Center provides legislative updates and reference referrals.

Resources available:
Materials Services: ▼ •

Leelanau Conservancy Watershed Council

105 N. First Street
P.O. Box 1007
Leland, MI 49654

Phone: (616) 256-9665

The Leelanau Conservancy Watershed Council provides technical information regarding wetlands, but does not participate in specific cases. When greater involvement is needed, they make referrals to the appropriate individuals, organizations, or agencies.

Resources available: ◆ ▲ ✪ ★ ⅃
Materials Services: ❖ ▼ •

Michigan Audubon Society

6011 W. St. Joseph Hwy.
P.O. Box 80527
Lansing, MI 48908-0527

Phone: (517) 886-9144
FAX: (517) 886-9466

The Michigan Audubon Society (MAS) routinely comments on dredge and fill applications and assists citizens with their comments. MAS has a Wetland Watch program that involves 45 local chapters throughout Michigan. Although MAS and affiliates occasionally get involved in litigation or contested cases, the primary focus is on monitoring and advocacy at the local level. In addition, MAS is involved in wetland protection advocacy efforts on the state and federal level.

Resources available:
Materials Services: ▼ • ☆ ☽

Michigan Lake and Stream Associations, Inc.

122-1/2 N. Main Street
P.O. Box 249
Three Rivers, MI 49093

Phone: (616) 273-8200
FAX: (616) 273-2919

The Michigan Lake and Stream Associations, Inc. (ML&SA) serves as a communication link between hundreds of individual lake associations throughout Michigan. ML&SA is committed to assist member associations when involved in litigation and contested case hearings. ML&SA also advises citizens on understanding wetland regulations and on the best approaches to avoid or minimize wetland destruction.

Resources available: ◆ ✪ ✦ †
Materials Services: ▼ • ☽

Michigan United Conservation Clubs

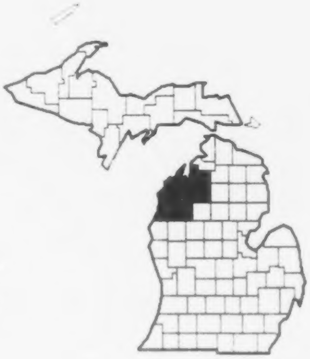
2101 Wood Street
P.O. Box 30235
Lansing, MI 48909

Phone: (517) 371-1041
FAX (517) 371-1505

The Michigan United Conservation Clubs (MUCC) routinely comments on dredge and fill applications and assists citizens with their comments. MUCC's Wetland Watch program provides local activists across the state with public notices and technical assistance free of charge. MUCC gets involved with litigation and contested case hearings on a limited basis, and does have several staff that could potentially serve as "expert witnesses." MUCC has a broad network of over 450 affiliate organizations, many of which also work on wetlands.

Resources available: ◆ ✪ †
Materials Services: ▼ • ‡

Northern Michigan Environmental Action Council



106 S. Union Street, Suite 201
P.O. Box 1166
Traverse City, MI 49685-1166

Phone: (616)946-6931

The Northern Michigan Environmental Action Council (NMEAC) will assist citizens with commenting on dredge and fill applications and developing wetland protection strategies. NMEAC will litigate when necessary.

Resources available: ◆ ✪
Materials Services: ▼ •

Sierra Club, Mackinac Chapter

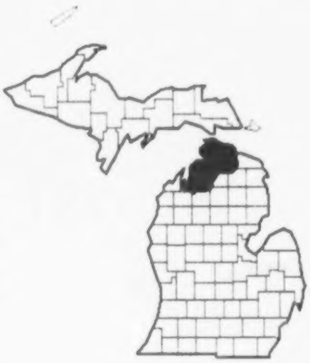
115 W. Allegan, Suite 10B
Lansing, MI 48933

Phone: (517) 484-2372

The Sierra Club, Mackinac Chapter, has no specific wetland protection program, but can assist groups and individuals with communicating their concerns about wetlands policy to elected officials at all levels. The Sierra Club does pursue litigation where necessary. The Mackinac Chapter does provide legislative alerts issued by the Great Lakes Program or the national office.

Resources available:
Materials Services: ▼ • ‡

Tip of the Mitt Watershed Council



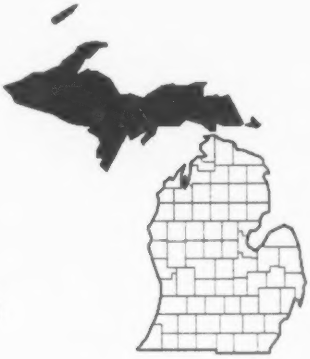
P.O. Box 300
Conway, MI 49722

Phone: (616) 347-1181
Fax: (616) 347-5928

The Tip of the Mitt Watershed Council (TOMWC) routinely comments on dredge and fill applications and assists citizens with their comments. TOMWC offers an "Adopt-A-Stream" program that includes associated wetlands, a "Wetland Stewardship" program, a planning and zoning program to promote water quality protection, and a wetland delineation service. Several staff could potentially serve as "expert witnesses" and the staff attorney provides legal advice. TOMWC also publishes *Great Lakes Wetlands*, and coordinates the Great Lakes Wetlands Policy Consortium and the Michigan Wetlands Action Coalition.

Resources available: ◆ ▲ ✪ ★ ● ⌐ ✦ †
Materials/Services: ✣ ▼ • ☆ ☽

Upper Peninsula Environmental Coalition



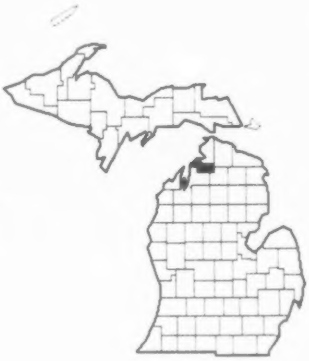
P.O. Box 34
Houghton, MI 49931

Phone: (906) 482-6543

The Upper Peninsula Environmental Coalition (UPEC) receives dredge and fill applications for the entire Upper Peninsula of Michigan and either reviews and makes comments on them or refers them to appropriate agencies and individuals. UPEC also helps to coordinate and develop action strategies for particular wetland protection issues.

Resources available:
Materials/Services: ▼ •

Water and Air Team for Charlevoix



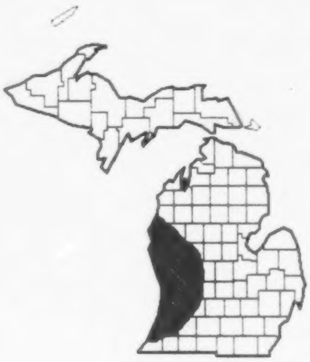
P.O. Box 615
Charlevoix, MI 49720

Phone: (616) 547-5530

Water and Air Team for Charlevoix (WATCH) routinely comments on dredge and fill applications and assists citizens with their comments as much as possible. WATCH's "Adopt-A-Stream" program can be expanded to include wetlands, and they are available to help in litigation or contested case hearings.

Resources available: †
Materials/Services: ▼ • ☆

West Michigan Environmental Action Council



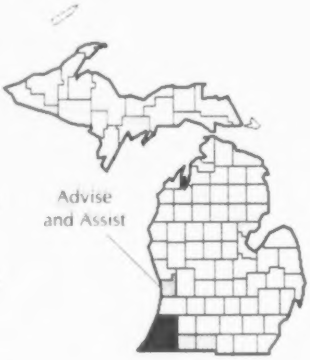
1432 Wealthy S.E.
Grand Rapids, MI 49506

Phone: (616) 451-3051

West Michigan Environmental Action Council (WMEAC) routinely comments on dredge and fill applications and assists citizens with their comments whenever possible. WMEAC's "Adopt-A-Stream" program includes wetlands. Several staff and members could potentially serve as "expert witnesses." In addition, WMEAC's wetland protection activities include publishing issue alerts and fact sheets, providing speakers, working with media, coalition building, strategic planning, and policy development.

Resources available:
Materials/Services: ▼ • ☆

Wetlands Conservation Association



P.O. Box 133
Stevensville, MI 49127-0133

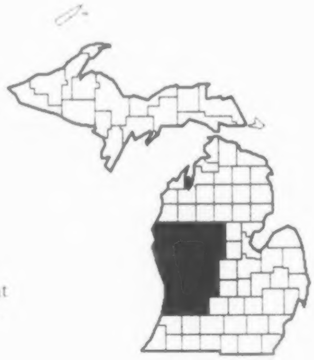
Phone: (616) 429-1862

The Wetlands Conservation Association (WCA) routinely comments on dredge and fill applications and assists citizens with their comments. The Association is developing a conservation easement program and is actively pursuing wetland restoration projects. WCA will pursue litigation or contested cases when necessary. The WCA is also active in providing wetland protection advice to citizens.

Resources available: ◆ ▲ ✪
Materials/Services: ✤ ▼ • ☆

Advise and Assist

Wetlands Foundation of West Michigan



180 N. Division
College Park Plaza
Grand Rapids, MI 49503

Phone: (616) 456-8776

The Wetlands Foundation of West Michigan assists with the design, funding, and permitting of projects that restore, enhance, or create wetlands primarily for habitat values. The Foundation does not comment on dredge and fill permit applications on a regular basis. However, it does function as a resource center for public education regarding wetlands and will assist citizens with their comments on permit applications.

Resources available: ◆ ▲ ✪
Materials/Services: ▼ •

Appendices B—G

APPENDIX B:
Goemaere-Anderson Wetland Protection Act

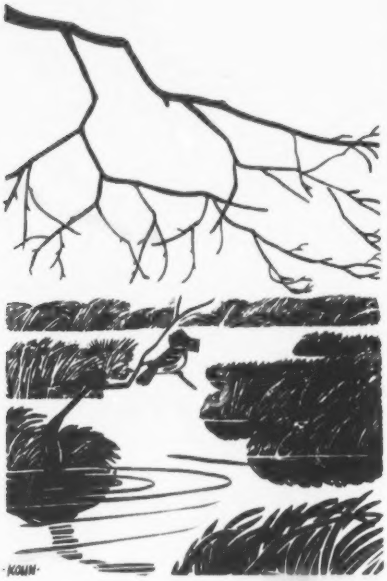
APPENDIX C:
Goemaere-Anderson Wetland Protection Act—Administrative Rules

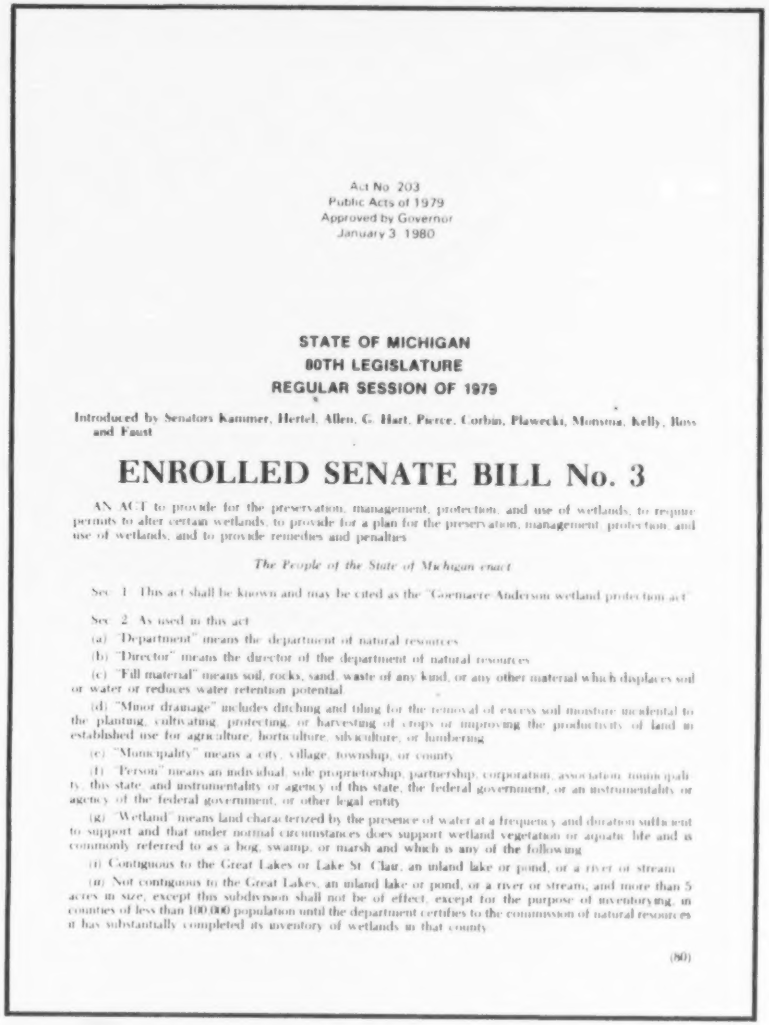
APPENDIX D:
Sample, MDNR Weekly Permit Application Listing

APPENDIX E:
State and Federal Wetlands Regulatory Agencies

APPENDIX F:
Local Municipalities With Wetlands Ordinances

APPENDIX G:
List of Educational Materials





Act No. 203
Public Acts of 1979
Approved by Governor
January 3, 1980

STATE OF MICHIGAN
80TH LEGISLATURE
REGULAR SESSION OF 1979

Introduced by Senators Kammer, Hertel, Allen, G. Hart, Pierce, Corbin, Plawecki, Monsma, Kelly, Ross and Faust

ENROLLED SENATE BILL No. 3

AN ACT to provide for the preservation, management, protection, and use of wetlands; to require permits to alter certain wetlands; to provide for a plan for the preservation, management, protection, and use of wetlands; and to provide remedies and penalties.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "Goemaere-Anderson wetland protection act".

Sec. 2. As used in this act:

(a) "Department" means the department of natural resources.

(b) "Director" means the director of the department of natural resources.

(c) "Fill material" means soil, rocks, sand, waste of any kind, or any other material which displaces soil or water or reduces water retention potential.

(d) "Minor drainage" includes ditching and tiling for the removal of excess soil moisture incidental to the planting, cultivating, protecting, or harvesting of crops or improving the productivity of land in established use for agriculture, horticulture, silviculture, or lumbering.

(e) "Municipality" means a city, village, township, or county.

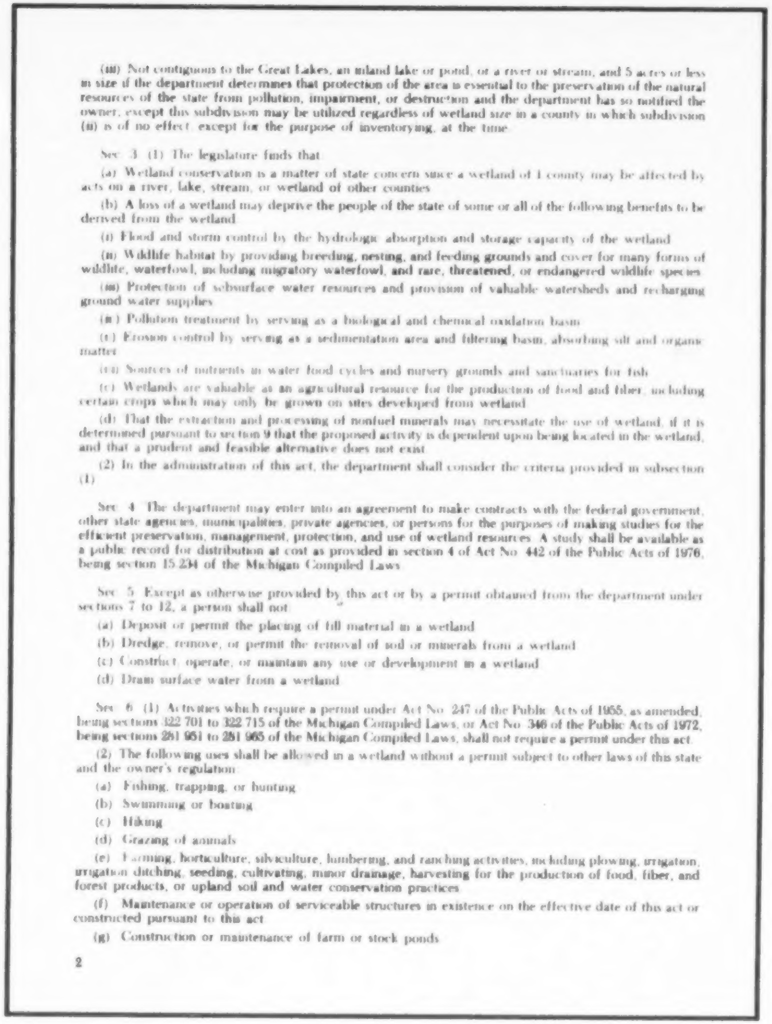
(f) "Person" means an individual, sole proprietorship, partnership, corporation, association, municipality, this state, and instrumentality or agency of this state, the federal government, or an instrumentality or agency of the federal government, or other legal entity.

(g) "Wetland" means land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh and which is any of the following:

(i) Contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream.

(ii) Not contiguous to the Great Lakes, an inland lake or pond, or a river or stream; and more than 5 acres in size, except this subdivision shall not be of effect, except for the purpose of inventorying, in counties of less than 100,000 population until the department certifies to the commission of natural resources it has substantially completed its inventory of wetlands in that county.

(80)



(iii) Not contiguous to the Great Lakes, an inland lake or pond, or a river or stream; and 5 acres or less in size if the department determines that protection of the area is essential to the preservation of the natural resources of the state from pollution, impairment, or destruction and the department has so notified the owner; except this subdivision may be utilized regardless of wetland size in a county in which subdivision (ii) is of no effect, except for the purpose of inventorying, at the time.

Sec. 3. (1) The legislature finds that:

(a) Wetland conservation is a matter of state concern since a wetland of 1 county may be affected by acts on a river, lake, stream, or wetland of other counties.

(b) A loss of a wetland may deprive the people of the state of some or all of the following benefits to be derived from the wetland:

(i) Flood and storm control by the hydrologic absorption and storage capacity of the wetland.

(ii) Wildlife habitat by providing breeding, nesting, and feeding grounds and cover for many forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.

(iii) Protection of subsurface water resources and provision of valuable watersheds and recharging ground water supplies.

(iv) Pollution treatment by serving as a biological and chemical oxidation basin.

(v) Erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.

(vi) Sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

(c) Wetlands are valuable as an agricultural resource for the production of food and fiber, including certain crops which may only be grown on sites developed from wetland.

(d) That the extraction and processing of nonfuel minerals may necessitate the use of wetland, if it is determined pursuant to section 9 that the proposed activity is dependent upon being located in the wetland, and that a prudent and feasible alternative does not exist.

(2) In the administration of this act, the department shall consider the criteria provided in subsection (1).

Sec. 4. The department may enter into an agreement to make contracts with the federal government, other state agencies, municipalities, private agencies, or persons for the purposes of making studies for the efficient preservation, management, protection, and use of wetland resources. A study shall be available as a public record for distribution at cost as provided in section 4 of Act No. 442 of the Public Acts of 1976, being section 15.234 of the Michigan Compiled Laws.

Sec. 5. Except as otherwise provided by this act or by a permit obtained from the department under sections 7 to 12, a person shall not:

(a) Deposit or permit the placing of fill material in a wetland.

(b) Dredge, remove, or permit the removal of soil or minerals from a wetland.

(c) Construct, operate, or maintain any use or development in a wetland.

(d) Drain surface water from a wetland.

Sec. 6. (1) Activities which require a permit under Act No. 247 of the Public Acts of 1955, as amended, being sections 322.701 to 322.715 of the Michigan Compiled Laws, or Act No. 346 of the Public Acts of 1972, being sections 281.951 to 281.965 of the Michigan Compiled Laws, shall not require a permit under this act.

(2) The following uses shall be allowed in a wetland without a permit subject to other laws of this state and the owner's regulation:

(a) Fishing, trapping, or hunting.

(b) Swimming or boating.

(c) Hiking.

(d) Grazing of animals.

(e) Farming, horticulture, silviculture, lumbering, and ranching activities, including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices.

(f) Maintenance or operation of serviceable structures in existence on the effective date of this act or constructed pursuant to this act.

(g) Construction or maintenance of farm or stock ponds.

2

(h) Maintenance, operation, or improvement which includes straightening, widening, or deepening of the following which is necessary for the production or harvesting of agricultural products:

(*i*) An existing private agricultural drain.

(*ii*) That portion of a drain legally established pursuant to Act No. 40 of the Public Acts of 1956, as amended, being sections 280.1 to 280.630 of the Michigan Compiled Laws, which has been constructed or improved for drainage purposes.

(*iii*) A drain constructed pursuant to other provisions of this act.

(j) Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining or forestry equipment, if the roads are constructed and maintained in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

(k) Drainage necessary for the production and harvesting of agricultural products if the wetland is owned by a person who is engaged in commercial farming and the land is to be used for the production and harvesting of agricultural products. Except as otherwise provided in this act, land improved under this subdivision after the effective date of this act shall not be used for nonfarming purposes without a permit from the department. This subdivision shall not apply to a wetland which is contiguous to a lake or stream, or to a tributary of a lake or stream, or to a wetland which the department has determined by clear and convincing evidence to be a wetland which is necessary to be preserved for the public interest, in which case a permit shall be required.

(*l*) Maintenance or improvement of public streets, highways, or roads, within the right of way and in such a manner as to assure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes, increasing the right of way, or deviating from the existing location of the street, highway, or road.

(m) Maintenance, repair, or operation of gas or oil pipelines and construction of gas or oil pipelines having a diameter of 6 inches or less, if the pipelines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

(n) Maintenance, repair, or operation of electric transmission and distribution power lines and construction of distribution power lines if the distribution power lines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

(o) Operation or maintenance, including reconstruction of recently damaged parts, of serviceable dikes and levees in existence on the effective date of this act or constructed pursuant to this act.

(p) Construction of iron and copper mining tailings basins and water storage areas.

(3) After the effective date of this act but immediately prior to the approval of a state program under section 404 of title 4 of the clean water act of 1977, 33 U.S.C. 1344, where a project solely involves the discharge of fill material subject to the individual permit requirements of section 404 of title 4 of the clean water act of 1977, 33 U.S.C. 1344, an additional permit shall not be required by this act.

Sec. 7. (1) Except as provided in section 8(4), to obtain a permit for a use or development listed in section 5, the person desiring the permit shall file an application with the department on a form provided by the department accompanied by a fee of $25.00. A person who has a permit for the particular activity under Act No. 346 of the Public Acts of 1972, or Act No. 61 of the Public Acts of 1939, as amended, being sections 319.1 to 319.27 of the Michigan Compiled Laws, does not need to pay the fee prescribed by this subsection. The application shall include:

(a) The person's name and address.

(b) The location of the wetland.

(c) A description of the wetland on which the use or development is to be made.

(d) A statement describing the proposed use or development.

(e) The wetland owner's name and address.

(f) An environmental assessment on a form supplied by the department, of the proposed use or development if requested by the department which shall include effects upon wetland benefits and the effects upon the water quality, flow, and levels, and the wildlife, fish, and vegetation within a contiguous lake, river, or stream.

(2) For the purposes of subsection (1), a proposed use or development of a wetland shall be considered as a single permit application under this act if the scope, extent, and purpose of a use or development are made known at the time of the application for the permit.

Sec. 8. (1) Within 60 days after receipt of the completed application and fee, the department may hold a hearing. If a hearing is held, it shall be held in the county where the wetland on which the permit is to

apply is located. Notice of the hearing shall be made in the same manner as for the promulgation of rules under Act No. 306 of the Public Acts of 1969, as amended, being sections 24.201 to 24.315 of the Michigan Compiled Laws. The department may approve or disapprove a permit application without a public hearing unless a person requests a hearing in writing within 20 days after the mailing of notification of the permit application as required by subsection (3), or the department determines that the permit application is of significant impact to warrant a public hearing.

(2) If a hearing is not held, the department shall approve or disapprove the permit application within 90 days after the completed permit application is filed with the department. If a hearing is held, the department shall approve or disapprove the permit application within 90 days after the conclusion of the hearing. The department may approve a permit application, request modifications in the application, or deny the permit application. If the department approves the permit application, the department shall prepare and send the permit to the applicant. If the department denies, or requests a modification of, the permit application, the department shall send notice of the denial or modification request, and the reasons for the denial or the modifications requested to the applicant. Department approval may include the issuance of a permit containing conditions necessary for compliance with this act. If the department does not approve or disapprove the permit application within the time provided by this subsection, the permit application shall be considered approved, and the department shall be considered to have made the determinations required by section 9. The action taken by the department may be appealed pursuant to Act No. 306 of the Public Acts of 1969, as amended. A property owner may, after exhaustion of administrative remedies, bring appropriate legal action in a court of competent jurisdiction.

(3) A person who desires notification of pending permit applications may make a written request to the department accompanied by an annual fee of $25.00 which shall be credited to the general fund of the state. The department shall prepare a biweekly list of the applications made during the previous 2 weeks and shall promptly mail copies of the list for the remainder of the calendar year to the persons who requested notice. The biweekly list shall state the name and address of each applicant, the location of the wetland in the proposed use or development including the size of both the proposed use or development and of the wetland affected, and a summary statement of the purpose of the use or development.

(4) A municipality, by ordinance, may provide for more stringent definition and regulation of wetland than is provided under this act. This subsection is supplemental to the existing authority of a municipality to protect wetland. Each municipality which adopts an ordinance regulating wetlands shall notify the department. The department shall develop an agreement with each municipality which has an ordinance regulating wetlands. The agreement shall provide for an exchange of information with the department including information regarding the environmental impact of each proposed use or development on wetlands, the proposed decision on each application for a proposed use or development on wetlands, and other information that may assist the municipality in administering its ordinance. The agreement shall provide that the department shall not issue a permit if the municipality has denied permission for the permit under its ordinances, unless the permit involves a use or development of regional or statewide public benefit. The agreement shall require that the municipality use an application form supplied by the department, and that each person applying for a permit make application directly with the municipality. Upon receipt, the municipality shall forward a copy of each application to the department. The department shall begin reviewing the application as provided in this act. The municipality shall review the application pursuant to its ordinance and shall modify, approve, or deny the application within 60 days after receipt. The department shall inform any interested person whether a municipality has an ordinance regulating wetlands. If the department receives an application with respect to a wetland which is located in a municipality which has an ordinance regulating wetlands, the department immediately shall forward the application to the municipality, which shall modify, deny, or approve the application under this subsection. The municipality shall notify the department of its decision. The department shall proceed as provided in this act.

(5) If a municipality does not have an ordinance regulating wetlands, the department shall promptly send a copy of the permit application to the municipality where the wetland is located. The municipality may review the application; may hold a hearing on the application; and may recommend approval, modification, or denial of the application to the department. The recommendations of the municipality shall be made and returned to the department within 45 days after the municipality's receipt of the permit application. The department shall approve, modify, or deny the application as provided in this act.

Sec. 9. (1) A permit for an activity listed in section 5 shall not be approved unless the department determines that the issuance of a permit is in the public interest, that the permit is necessary to realize the benefits derived from the activity, and that the activity is otherwise lawful.

(2) In determining whether the activity is in the public interest, the benefit which reasonably may be expected to accrue from the proposal shall be balanced against the reasonably foreseeable detriments of the

activity. The decision shall reflect the national and state concern for the protection of natural resources from pollution, impairment, and destruction. The following general criteria shall be considered:

(a) The relative extent of the public and private need for the proposed activity.

(b) The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.

(c) The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetland provides.

(d) The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed.

(e) The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or fish or wildlife.

(f) The size of the wetland being considered.

(g) The amount of remaining wetland in the general area.

(h) Proximity to any waterway.

(i) Economic value, both public and private, of the proposed land change to the general area.

(3) In considering a permit application, the department shall give serious consideration to findings of necessity for the proposed activity which have been made by other state agencies.

(4) A permit shall not be issued unless it is shown that an unacceptable disruption will not result to the aquatic resources. In determining whether a disruption to the aquatic resources is unacceptable, the criteria set forth in section 3 and subsection (2) shall be considered. A permit shall not be issued unless the applicant also shows either of the following:

(a) The proposed activity is primarily dependent upon being located in the wetland.

(b) A feasible and prudent alternative does not exist.

Sec. 10. (1) The department, after notice and opportunity for a public hearing, may issue general permits on a state or county basis for a category of activities if the department determines that the activities are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment. A general permit issued under this subsection shall be based on the requirements of this act and the rules promulgated under this act, and shall set forth the requirements and standards which shall apply to an activity authorized by the general permit.

(2) The department may impose conditions on a permit for a use or development if the conditions are designed to remove an impairment to the wetland benefits, to mitigate the impact of a discharge of fill material, or to otherwise improve the water quality.

(3) The department may establish a reasonable time when the construction, development, or use is to be completed or terminated. A general permit shall not be valid for more than 5 years.

Sec. 11. (1) A general permit may be revoked or modified if, after opportunity for a public hearing or a contested case hearing under Act No. 306 of the Public Acts of 1969, as amended, the department determines that the activities authorized by the general permit have an adverse impact on the environment or the activities would be more appropriately authorized by an individual permit.

(2) A permit may be terminated or modified for cause, including:

(a) A violation of a condition of the permit.

(b) Obtaining a permit by misrepresentation or failure to fully disclose relevant facts.

(c) A change in a condition that requires a temporary or permanent change in the activity.

Sec. 12. (1) The department shall require the holder of a permit to provide information the department reasonably requires to obtain compliance with this act.

(2) Upon reasonable cause or obtaining a search warrant, the department may enter on, upon, or through the premises on which an activity listed in section 5 is located or on which information required to be maintained under subsection (1) is located.

Sec. 13. (1) If, on the basis of information available to the department, the department finds that a person is in violation of this act or a condition set forth in a permit issued under section 9 or 10, the department shall issue an order requiring the person to comply with the prohibitions or conditions or the department shall request the attorney general to bring a civil action under section 14(1).

(2) An order issued under subsection (1) shall state with reasonable specificity the nature of the violation and shall specify a time for compliance, not to exceed 30 days, which the department determines is reasonable, taking into account the seriousness of the violation and good faith efforts to comply with applicable requirements.

Sec. 14. (1) The attorney general may commence a civil action for appropriate relief, including injunctive relief upon request of the department under section 13(1). An action under this subsection may be brought in the circuit court for the county of Ingham or for a county in which the defendant is located, resides, or is doing business. The court has jurisdiction to restrain the violation and to require compliance with this act. In addition to any other relief granted under this section, the court may impose a civil fine of not more than $10,000.00 per day of violation. A person who violates an order of the court shall be subject to a civil fine not to exceed $10,000.00 for each day of violation.

(2) A person who violates this act is guilty of a misdemeanor, punishable by a fine of not more than $2,500.00.

(3) A person who wilfully or recklessly violates a condition or limitation in a permit issued by the department under this act, or a corporate officer who has knowledge of or is responsible for a violation, is guilty of a misdemeanor, punishable by a fine of not less than $2,500.00 nor more than $25,000.00 per day of violation, or by imprisonment for not more than 1 year, or both. A person who violates this section a second or subsequent time is guilty of a felony, punishable by a fine of not more than $50,000.00 for each day of violation, or by imprisonment for not more than 2 years, or both.

(4) In addition to the penalties provided under subsections (1), (2), and (3), the court may order a person who violates this act to restore as nearly as possible the wetland which was affected by the violation, to its original condition immediately before the violation. The restoration may include the removal of fill material deposited in the wetland or the replacement of soil, sand, or minerals.

Sec. 15. The fees and civil fines collected under this act shall be deposited in the general fund of the state.

Sec. 16. If a permit is denied for a proposed wetland activity, the landowner may request a revaluation of the affected property for assessment purposes to determine its fair market value under the use restriction.

Sec. 17. (1) The department shall promulgate and enforce rules to implement this act pursuant to Act No. 306 of the Public Acts of 1969, as amended.

(2) If a person is aggrieved by any action or inaction of the department, the person may request a formal hearing on the matter involved. The hearing shall be conducted by the department pursuant to Act No. 306 of the Public Acts of 1969, as amended.

(3) A determination, action, or inaction by the department following the hearing shall be subject to judicial review as provided in Act No. 306 of the Public Acts of 1969, as amended.

(4) This section does not limit the right of a wetland owner to institute proceedings in any circuit of the circuit court of the state against any person when necessary to protect the wetland owner's rights.

Sec. 18. (1) As inventories of wetland are completed, the inventories shall be used as 1 of the criteria by the department in issuing permits. The inventories shall be periodically updated. The maps, ground surveys, and descriptions of wetlands included in the inventories shall be submitted to the respective county register of deeds and shall become a public document available to review by any member of the public.

(2) Aerial photographs and satellite telemetry data reproductions shall be made available to the respective county register of deeds for cost as determined by the department.

Sec. 19. (1) The department shall make or cause to be made a preliminary inventory of all wetland in this state on a county by county basis and file the inventory with the agricultural extension office, register of deeds, and county clerk.

(2) At least 2 hearings shall be held in each state planning and development region created by Executive Directive No. 1973-1. The hearing shall be held by the department after publication and due notice so that interested parties may comment on the inventory. After the hearings the department shall issue a final inventory which shall be sent and kept by the agricultural extension office, register of deeds, and county clerk. Legislators shall receive an inventory of a county or regional classification for their districts including both preliminary and final inventories unless the legislators request not to receive the materials.

(3) Before an inventory is made of a county, interested persons may request the department to inspect

property and the department shall make a written wetland determination. The determination shall be made within a reasonable time after the request. Completion of the inventory shall not delay implementation of this act.

Sec. 20. As wetland inventories are completed as specified in section 10, owners of record as identified by the current property tax roll shall be notified of the possible change in the status of their property. Notification shall be printed on the next property tax bill mailed to property owners in the county. It shall contain information specifying that a wetland inventory has been completed and is on file with the agricultural extension office, register of deeds, and county clerk, and that property owners may be subject to regulation under this act.

Sec. 21. (1) This act shall not be construed to abrogate rights or authority otherwise provided by law.

(2) For the purposes of determining if there has been a taking of property without just compensation under Michigan law, an owner of property who has sought and been denied a permit or has been made subject to modifications or conditions in the permit under this act or the department's action or inaction pursuant to this act may file an action in a court of competent jurisdiction.

(3) If the court determines that an action of the department pursuant to this act constitutes a taking of the property of a person then the court shall order the department, at the department's option, to do one or more of the following:

(a) Compensate the property owner for the full amount of the lost value.

(b) Purchase the property in the public interest as determined before its value was affected by this act or the department's action or inaction pursuant to this act.

(c) Modify its action or inaction with respect to the property so as to minimize the detrimental affect to the property's value.

(4) For the purposes of this section, the value of the property may not exceed that share which the area in dispute occupies in the total parcel of land, of the state equalized evaluation of the total parcel, multiplied by 2, as determined by an inspection of the most recent assessment roll of the township or city in which the parcel is located.

Sec. 22. This act shall take effect October 1, 1980.

This act is ordered to take immediate effect.

William C. Kandler
Secretary of the Senate

T. Thos. Thatcher
Clerk of the House of Representatives.

Approved ....

....
Governor

DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION
WETLAND PROTECTION

Filed with the Secretary of State on June 22, 1988
These rules take effect 15 days after filing with the Secretary of State

(By authority conferred on the department of natural resources by section 17 of Act No. 203 of the Public Acts of 1979, being §281.717 of the Michigan Compiled Laws)

R 281.921 Definitions.

Rule 1. (1) As used in these rules:

(a) "Act" means Act No. 203 of the Public Acts of 1979, being §281.701 et seq. of the Michigan Compiled Laws.

(b) "Contiguous" means any of the following:

(i) A permanent surface water connection or other direct physical contact with an inland lake or pond, a river or stream, one of the Great Lakes, or Lake St. Clair.

(ii) A seasonal or intermittent direct surface water connection to an inland lake or pond, a river or stream, one of the Great Lakes, or Lake St. Clair.

(iii) A wetland is partially or entirely located within 500 feet of the ordinary high watermark of an inland lake or pond or a river or stream or is within 1,000 feet of the ordinary high watermark of one of the Great Lakes or Lake St. Clair, unless it is determined by the department, pursuant to R 281.924(4), that there is no surface water or groundwater connection to these waters.

(iv) Two or more areas of wetland separated only by barriers, such as dikes, roads, berms, or other similar features, but with any of the wetland areas contiguous under the criteria described in paragraph (i), (ii), or (iii) of this subdivision. The connecting waters of the Great Lakes, including the St. Mary's, St. Clair, and Detroit rivers, shall be considered part of the Great Lakes for purposes of this definition.

(c) "General permit" means a permit which, as authorized by section 10 of the act, is issued for categories of minor activities, as defined in subdivision (f) of this subrule.

(d) "Individual permit" means a permit which, as authorized by sections 7, 8, and 9 of the act, is issued for categories of activities that are not classified as minor.

(e) "Inland lake or pond, a river or stream" means any of the following:

(i) A river or stream which has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.

(ii) A natural or permanent artificial inland lake or impoundment that has definite banks, a bed, visible evidence of a continued occurrence of water, and a surface area of water that is more than 5 acres. This does not include lakes constructed by excavating or diking dry land and maintained for the sole purpose of cooling or storing water and does not include lagoons used for treating polluted water.

(iii) A natural or permanent artificial pond that has permanent open water with a surface area that is more than 1 acre, but less than 5 acres. This does not include ponds constructed by excavating or diking dry land and maintained for the sole purpose of cooling or storing water and does not include lagoons used for treating polluted water.

(f) "Minor activities" means activities that are similar in nature, that will cause only minimal adverse environmental effects when performed separately, and that will have only minimal cumulative adverse effects on the environment.

(g) "Wetland vegetation" means plants that exhibit adaptations to allow, under normal conditions, germination or propagation and to allow growth with at least their root systems in water or saturated soil.

(2) As used in the act:

(a) "Electric distribution line" means underground lines below 30 kilovolts and lines supported by wood poles.

(b) "Electric transmission line" means those conductors and their necessary supporting or containing structures located outside of buildings that are used for transmitting a supply of electric energy, except those lines defined in subdivision (a) of this subrule.

(c) "Pipelines having a diameter of 6 inches or less" means a pipe which is equal to or less than what is commonly referred to as a 6-inch pipe and which has an actual measured outside diameter of less than 6.75 inches.

(3) Terms defined in the act have the same meanings when used in these rules.

R 281.922 Permit applications.

Rule 2. (1) An application for a permit shall be made on a form prescribed and provided by the department.

(2) An application for a permit shall not be deemed as received or filed until the department has received all information requested on the application form, the application fee, and other information authorized by the act and necessary to reach a decision. The period for granting or denying an application begins as soon as all such information and the application fee are received by the department.

(3) Application fees shall be submitted to the department with the initial submittal of an application form. The fee shall be paid by check, money order, or draft made payable to: "State of Michigan".

(4) An application may be considered to be withdrawn and the file for the application may be closed if an applicant fails to respond to any written inquiry or request from the department for information requested as a part of the application form within 30 days of the request or such longer period of time as needed by the applicant to provide the information agreed to, in writing, between the applicant and the department.

(5) Upon request, the department shall provide any person with a copy of a permit application and supporting documents consistent with all provisions of Act No. 442 of the Public Acts of 1976, as amended, being §15.231 et seq. of the Michigan Compiled Laws.

(6) Decisions reached by the department which deny or modify an application for a permit shall be supported by written documentation to the applicant based upon the applicable criteria contained in section 9 of the act. The department shall create a form based on the criteria from section 9 of the act to be completed and placed into each application file. When a

proposed activity involves a coordinated review by federal agencies as provided for under the act and section 404 of title 4 of the clean water act of 1977, 33 U.S.C. § 1344, the department shall prepare a fact sheet pursuant to 40 C.F.R. §124.8 (April 1, 1983) and 40 C.F.R. §233.39 (April 1, 1983) for inclusion in the application file.

R 281.923 Permits.

Rule 3. (1) An application for a proposed activity which is within a general permit category may be processed and issued by the department without the noticing or hearings specified under section 7, 8, and 9 of the act. The department may process, by public notice, an application which would normally qualify under a general permit category to allow more opportunity for public review and comment. Categories of minor activities will be established in the general permit in accordance with section 10 of the act. The factors set forth in sections 3 and 9 of the act shall be considered in determining whether such a permit is in the best interest of the public.

(2) Applications for activities that are not classified as minor shall be reviewed through the process prescribed under sections 7, 8, and 9 of the act. The department may issue an individual permit 21 days after the mailing of notification of the permit application if comments of nonobjection have been received from the municipality, if a public hearing has not been requested, and if the proposed activities are otherwise in accordance with the act.

(3) If the department does not approve or disapprove the permit application within the time provided by section 8(2) of the act, the permit application shall be considered approved and the department shall be considered to have made the determination required by section 9 of the act.

(4) When a project involves activities regulated under Act No. 247 of the Public Acts of 1955, as amended, being §322.701 et seq. of the Michigan Compiled Laws, or Act No. 346 of the Public Acts of 1972, as amended, being §281.951 et seq. of the Michigan Compiled Laws, or the act, the applicant shall submit 1 application for all activities regulated under these acts. Only 1 permit for these activities will be issued or denied by applying the criteria of the appropriate acts. If a permit is issued, conditions shall reflect the requirements of all appropriate acts.

(5) A permit may be issued for a period extending until the end of the following calendar year. A permit may be issued for a longer period of time if agreed to, in writing, between the applicant and the department. Before a permit expires, extensions of time may be granted by the department upon receipt of a written request from the permit holder explaining why such an extension is needed to complete the project. Up to two 12-month extensions shall be granted if there is no change in the activity for which the permit was originally issued. Administrative fees shall not be required for such extensions.

(6) Any permit issued under the act does not obviate the necessity of receiving, when applicable, approval from other federal, state, and local government agencies.

(7) Any permit issued by the department under the act may be revoked or suspended, after notice and an opportunity for a hearing, for any of the following causes:

(a) A violation of a condition of the permit.

(b) Obtaining a permit by misrepresentation or failure to fully disclose relevant facts in the application.

(c) A change in a condition that requires a temporary or permanent change in the activity.

R 281.924 Wetland determinations.

Rule 4. (1) When performing wetland determinations, as required by section 19(3) of the act, the department shall utilize criteria consistent with the definition of "wetland" provided in section 2(g) of the act and shall provide a written response stating, to the legal landowner within 30 days of the on-site evaluation, whether the parcel contains wetland and the basis for that determination.

(2) When performing wetland determinations, the department shall rely on visible evidence that the normal seasonal frequency and duration of water is above, at, or near the surface of the area to verify the existence of a wetland. Under normal circumstances, the frequency and duration of water that is necessary to determine an area to be a wetland will be reflected in the vegetation or aquatic life present within the area being considered. A wetland that has not been recently or severely disturbed will contain a predominance, not just an occurrence, of wetland vegetation or aquatic life. Where there is a predominance of wetland vegetation, and no direct visible evidence that water is, or has been, at or above the surface, the department shall use the following characteristics of the soils or substrate to verify the existence of a wetland:

(a) The presence of a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil that favor the growth and regeneration of wetland vegetation.

(b) Physical or chemical characteristics of a soil column which provide evidence of the current and recent degree of saturation or inundation. Characteristics, such as gleying, low chroma mottling, or chemically demonstrated anaerobic conditions, can be utilized to identify the current and recent depth and fluctuation of the water table or inundation.

(3) If the department makes a determination that a wetland otherwise outside of the jurisdiction of the act is essential to the preservation of the natural resources of the state under section 2(g)(iii) of the act, it shall provide such findings, in writing, to the legal landowner stating the reasons for this determination. In making such a determination, 1 or more of the following functions shall apply to a particular site:

(a) It supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in section 6 of Act No. 203 of the Public Acts of 1974, being §299.226 of the Michigan Compiled Laws.

(b) It represents what the department has identified as a rare or unique ecosystem.

(c) It supports plants or animals of an identified regional importance.

(d) It provides groundwater recharge documented by a public agency.

(4) Upon the request of a property owner or his or her agent, the department shall determine if there is no surface or groundwater connection that meets the definition of contiguous under R 281.921(1)(b)(iii). The determination shall be made in writing and shall be provided to the property owner or agent within a reasonable period of time after receipt of the request.

R 281.925 Mitigation.

Rule 5. (1) As authorized by section 10(2) of the act, the department may impose conditions on a permit for a use or development if the conditions are designed to remove an impairment to the wetland benefits, to mitigate the impact of a discharge of fill material, or otherwise improve the water quality.

(2) The department shall consider a mitigation plan if submitted by the applicant and may incorporate the mitigation actions as permit conditions for the improvement of the existing wetland resources or the creation of a new wetland resource to offset wetland resource losses resulting from the proposed project. If agreed to by the applicant, financial assurances may be required to ensure that mitigation is accomplished as specified by the permit conditions. The department shall, when requested by the applicant, meet with the applicant to review the applicant's mitigation plan.

(3) In developing conditions to mitigate impacts, the department shall consider mitigation to apply only to unavoidable impacts that are otherwise permittable utilizing the criteria under sections 3 and 9 of the act. Mitigation shall not be considered when it is feasible and prudent to avoid impacts or when the impacts would be otherwise prohibited under the act.

(4) When considering mitigation proposals, the department shall make all of the following determinations:

(a) That all feasible and prudent efforts have been made to avoid the loss of wetland resource values.

(b) That all practical means have been considered to minimize impacts.

(c) That it is practical to replace the wetland resource values which will be unavoidably impacted.

(5) If the department determines that it is practical to replace the wetland resource values which will be unavoidably impacted, the department shall consider all of the following criteria when reviewing an applicant's mitigation proposal:

(a) Mitigation shall be provided on-site where practical and beneficial to the wetland resources.

(b) When subdivision (a) of this subrule does not apply, mitigation shall be provided in the immediate vicinity of the permitted activity where practical and beneficial to the wetland resources. When possible, this means within the same watershed and municipality as the location of the proposed project.

(c) Only when it has been determined that subdivisions (a) and (b) of this subrule are inappropriate and impractical shall mitigation be considered elsewhere.

(d) Any proposal shall assure that, upon completion, there will be no net loss to the wetland resources.

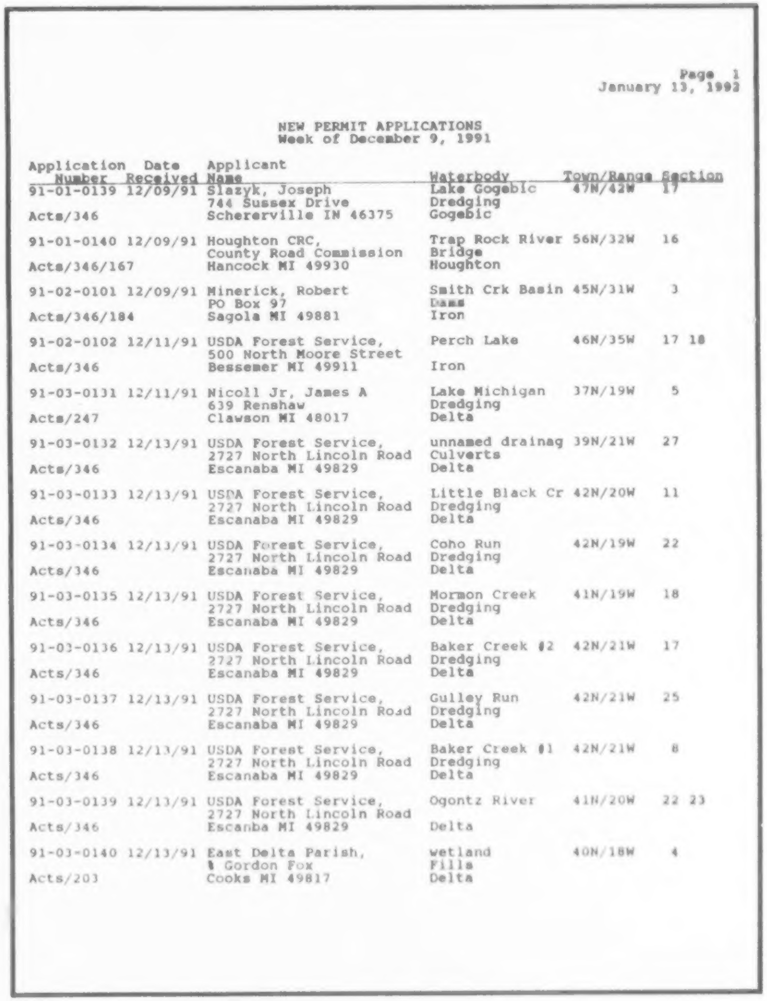
(e) The proposal shall give consideration to replacement of the predominant functional values lost within the impacted wetland.

(6) Except where a mitigation plan is to occur on state or federally owned property or where the mitigation is to occur in the same municipality where the project is proposed, the municipality where the proposed mitigation site is located shall be given notice and an opportunity to comment in writing to the department on the proposed mitigation plan before a permit is issued.

(7) Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the department and the applicant.

(8) Monitoring to establish documentation of the functional performance of the mitigation may be required as permit conditions, as well as necessary corrective actions required, to deliver the wetland resource values identified.

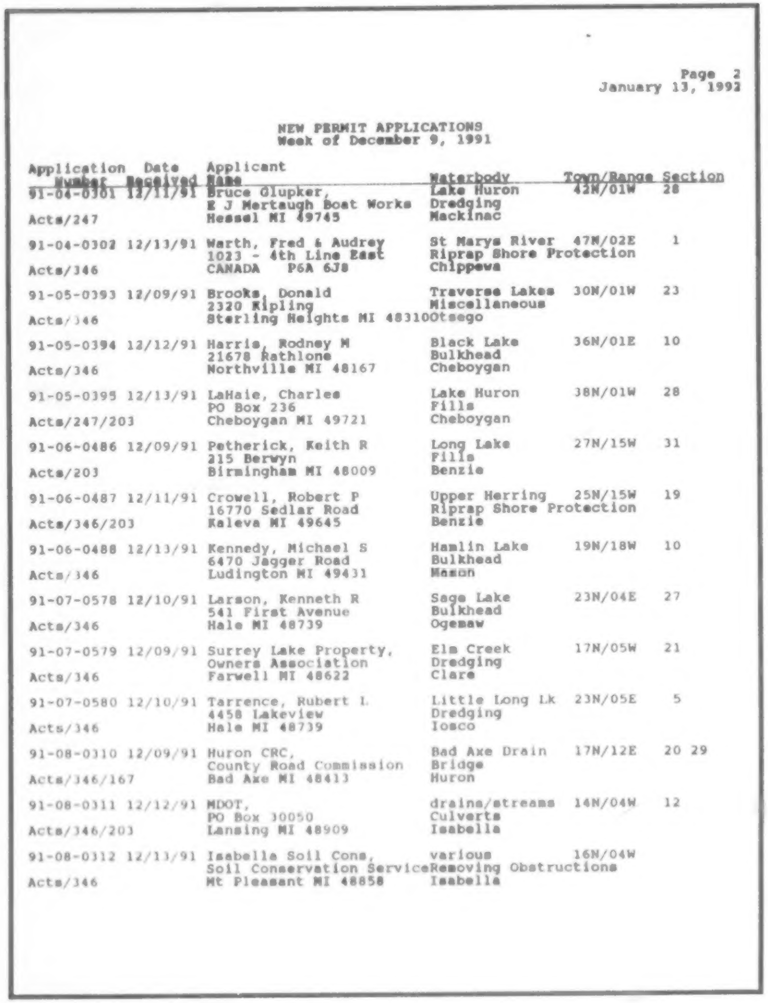
(9) Mitigation, by replacement of lost wetland resources, shall not be required if an activity is authorized and permitted under the authority of a general permit issued under section 10(1) of the act.



Page 1
January 13, 1992

NEW PERMIT APPLICATIONS
Week of December 9, 1991

Application Number	Date Received	Applicant Name	Waterbody	Town/Range	Section
91-01-0139 Acts/346	12/09/91	Slazyk, Joseph 744 Sussex Drive Schererville IN 46375	Lake Gogebic Dredging Gogebic	47N/42W	17
91-01-0140 Acts/346/167	12/09/91	Houghton CRC, County Road Commission Hancock MI 49930	Trap Rock River Bridge Houghton	56N/32W	16
91-02-0101 Acts/346/184	12/09/91	Minerick, Robert PO Box 97 Sagola MI 49881	Smith Crk Basin Dams Iron	45N/31W	3
91-02-0102 Acts/346	12/11/91	USDA Forest Service, 500 North Moore Street Bessemer MI 49911	Perch Lake Iron	46N/35W	17 18
91-03-0131 Acts/247	12/11/91	Nicoll Jr, James A 639 Renshaw Clawson MI 48017	Lake Michigan Dredging Delta	37N/19W	5
91-03-0132 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	unnamed drainag Culverts Delta	39N/21W	27
91-03-0133 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Little Black Cr Dredging Delta	42N/20W	11
91-03-0134 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Coho Run Dredging Delta	42N/19W	22
91-03-0135 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Mormon Creek Dredging Delta	41N/19W	18
91-03-0136 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Baker Creek #2 Dredging Delta	42N/21W	17
91-03-0137 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Gulley Run Dredging Delta	42N/21W	25
91-03-0138 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanaba MI 49829	Baker Creek #1 Dredging Delta	42N/21W	8
91-03-0139 Acts/346	12/13/91	USDA Forest Service, 2727 North Lincoln Road Escanba MI 49829	Ogontz River Delta	41N/20W	22 23
91-03-0140 Acts/203	12/13/91	East Delta Parish, % Gordon Fox Cooks MI 49817	wetland Fills Delta	40N/18W	4



Page 2
January 13, 1992

NEW PERMIT APPLICATIONS
Week of December 9, 1991

Application Number	Date Received	Applicant Name	Waterbody	Town/Range	Section
91-04-0301 Acts/247	12/11/91	Bruce Glupker, E J Mertaugh Boat Works Hessel MI 49745	Lake Huron Dredging Mackinac	42N/01W	28
91-04-0302 Acts/346	12/13/91	Warth, Fred & Audrey 1023 - 4th Line East CANADA P6A 6J8	St Marys River Riprap Shore Protection Chippewa	47N/02E	1
91-05-0393 Acts/346	12/09/91	Brooks, Donald 2320 Kipling Sterling Heights MI 48310	Traverse Lakes Miscellaneous Otsego	30N/01W	23
91-05-0394 Acts/346	12/12/91	Harris, Rodney M 21678 Rathlone Northville MI 48167	Black Lake Bulkhead Cheboygan	36N/01E	10
91-05-0395 Acts/247/203	12/13/91	LaHaie, Charles PO Box 236 Cheboygan MI 49721	Lake Huron Fills Cheboygan	38N/01W	28
91-06-0486 Acts/203	12/09/91	Petherick, Keith R 215 Berwyn Birmingham MI 48009	Long Lake Fills Benzie	27N/15W	31
91-06-0487 Acts/346/203	12/11/91	Crowell, Robert P 16770 Sedlar Road Kaleva MI 49645	Upper Herring Riprap Shore Protection Benzie	25N/15W	19
91-06-0488 Acts/346	12/13/91	Kennedy, Michael S 6470 Jagger Road Ludington MI 49431	Hamlin Lake Bulkhead Mason	19N/18W	10
91-07-0578 Acts/346	12/10/91	Larson, Kenneth R 541 First Avenue Hale MI 48739	Sage Lake Bulkhead Ogemaw	23N/04E	27
91-07-0579 Acts/346	12/09/91	Surrey Lake Property, Owners Association Farwell MI 48622	Elm Creek Dredging Clare	17N/05W	21
91-07-0580 Acts/346	12/10/91	Tarrence, Rubert L 4458 Lakeview Hale MI 48739	Little Long Lk Dredging Iosco	23N/05E	5
91-08-0310 Acts/346/167	12/09/91	Huron CRC, County Road Commission Bad Axe MI 48413	Bad Axe Drain Bridge Huron	17N/12E	20 29
91-08-0311 Acts/346/203	12/12/91	MDOT, PO Box 30050 Lansing MI 48909	drains/streams Culverts Isabella	14N/04W	12
91-08-0312 Acts/346	12/13/91	Isabella Soil Cons, Soil Conservation Service Mt Pleasant MI 48858	various Removing Obstructions Isabella	16N/04W	

Appendix E: *State and Federal Wetlands Regulatory Agencies*

State:

Michigan Department
of Natural Resources
Land and Water Management Division
P.O. Box 30028
Lansing, MI 48909
(517) 373-1170

District Offices:

District 1
North, US-41, Box 440
Baraga, MI 49908
(906) 353-6651

District 2
P.O. Box 300
Crystal Falls, MI 49920
(906) 875-6622

District 3
6833 Hwy. 2, 41 & M-35
Gladstone, MI 49837
(906) 786-2351

District 4
309 W. McMillan Ave
Newberry, MI 49868
(906) 293-5131

District 5
P.O. Box 667, 1732 W. M-32
Gaylord, MI 49735
(517) 732-3541

District 6
8015 Mackinaw Trail
Cadillac, MI 49601
(616) 775-9727

District 7
Box 939, 191 S. Mt. Tom Road
Mio, MI 48647
(616) 826-3211

District 8
503 North Euclid Ave., Suite 9-B
Bay City, MI 48706
(517) 684-9141

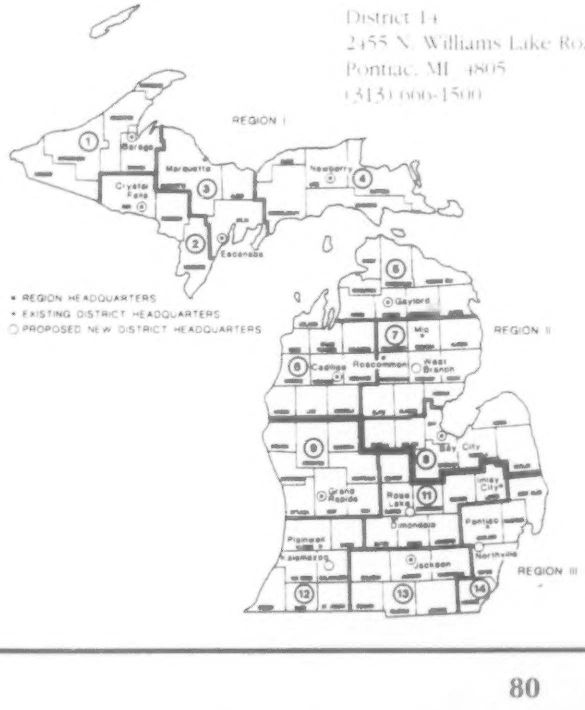
District 9
6th Floor, State Office Building
350 Ottawa NW
Grand Rapids, MI 49503
(616) 456-5071

District 11
715 S. Cedar St
Imlay City, MI 48444
(313) 724-2015

District 12
P.O. Box 355
621 N. 10th Street
Plainwell, MI 49080
(616) 685-6851

District 13
3335 Lansing Avenue
Jackson, MI 49202
(517) 784-3188

District 14
2455 N. Williams Lake Road
Pontiac, MI 4805
(313) 666-1500


REGION I
REGION II
REGION III
Baraga
Marquette
Crystal Falls
Newberry
Escanaba
Gaylord
Mio
Cadillac
Roscommon
West Branch
Bay City
Grand Rapids
Rose Lake
Imlay City
Dimondale
Pontiac
Plainwell
Kalamazoo
Jackson
Northville
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14
• REGION HEADQUARTERS
• EXISTING DISTRICT HEADQUARTERS
○ PROPOSED NEW DISTRICT HEADQUARTERS

Federal:

U.S. Army Corps of Engineers

Detroit District Regulatory Functions Branch
P.O. Box 1027
Detroit, MI 48231-1027
(313) 226-7504

Grand Haven Area Office
307 S. Harbor St.
Grand Haven, MI 49417
(616) 842-5510

Saginaw Area Office
2445 Weadock Rd
Essexville, MI 48732
(517) 894-4951

Sault St. Marie Area Office
St. Mary's Falls Canal
Sault St. Marie, MI 49783
(906) 632-3311

U.S. Environmental Protection Agency, Region 5

Wetlands and Watersheds Section
5WQW J-16
77 West Jackson Boulevard
Chicago, IL 60604
(312) 886-0243

U.S. Fish and Wildlife Service

East Lansing Field Office
302 Manly Miles Building
1405 S. Harrison Rd.
East Lansing, MI 48823
(517) 337-6629

Appendix F: *Local Municipalities With Wetlands Ordinances**

As of February 12, 1992...

Municipality	**County**
Addison Township	Oakland
Argentine Township	Genesee
Auburn Hills, City of	Oakland
Augusta Township	Washtenaw
Bay Township	Charlevoix
Bloomfield Township	Oakland
Brandon Township	Oakland
Brownstown Township	Wayne
Burt Township	Cheboygan
Charleston Township	Kalamazoo
Clarkston, Village of	Oakland
Clyde Township	St.Clair
Evangeline	Charlevoix
Fenton, City of	Genesee
Forest Home Township	Antrim
Green Oak Township	Livingston
Grosse Ile Township	Wayne
Hamburg Township	Livingston
Hayes Township	Charlevoix
Independence Township	Oakland
Lake Angelus, City of	Oakland
LaSalle Township	Monroe

Municipality	**County**
Meridian Township	Ingham
Milford Township	Oakland
Mundy Township	Genesee
Novi, City of	Oakland
Oakland Township	Oakland
Orchard Lake, Village of	Oakland
Orion Township	Oakland
Oxford	Oakland
Pinckney, Village of	Livingston
Rochester Hills, City of	Oakland
Saugatuck Township	Allegan
Southfield, City of	Oakland
Waterford Township	Oakland
West Bloomfield Township	Oakland
White Lake Township	Oakland
Whitewater Township	Grand Traverse
Wixom, City of	Oakland

Drafted but not yet adopted:

Brighton Township	Livingston
Ann Arbor, City of	Washtenaw

For citizen wetland protection advocates that are interested in receiving copies of the ordinances above for use as models, please contact the municipality directly. In addition, many of the organizations listed in Appendix A have model local ordinances to distribute. In addition, organizations such as the Michigan Society of Planning Officials, the American Planning Association, and private consulting firms such as the Planning and Zoning Center, Inc. have local model wetlands protection ordinances available.

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* *Ordinances in this list vary from those which condition the issuance of a local permit on appropriate state and federal wetland permits to those which require a separate local wetlands review and permit.*

1. **Television/Video: (all targets)**
   - A. "Last Dance," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - B. "Good-bye Golden Pond," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - C. "A Magnificent Celebration of Nature," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - D. "The Wetlands of Wisconsin: An Endangered Resource," slide show put together by Wisconsin Wetland Association, 111 King Street, Madison, WI 53703.

2. **Newspaper: (all targets)**
   - A. "Your Opinion: DNR lax on enforcement of wetland regulations," Times Herald, William Collins, Port Huron.

3. **Radio/PSA's: (all targets)**
   - A. Wetlands PSA - 30 seconds, Pennsylvania Environmental Council.
   - B. Wetlands PSA - 60 seconds, Pennsylvania Environmental Council.
   - C. Watching Migration PSA - 30 seconds, National Audubon Society.
   - D. Watching Migration PSA - 60 seconds, National Audubon Society.

4. **Schools: (teacher)**
   - A. Field Manual for Water Quality Monitoring: An Environmental Education Program for Schools, Mark K. Mitchell and William B. Stapp. 150 pages, 6x9 inches, 70 photos and charts, paperbound. Available through William Stapp, 2050 Delaware, Ann Arbor, MI 48103. $6.80 postpaid.
   - B. Project Mayfly: a guide to the determination of water quality in local waterways, Kay Wider, Pennington, NJ. $5.00 each.
   - C. Environmental Education Curriculum Guides: Grades K-12, Living Lightly on the Planet and Living Lightly in the City. Living Lightly, Schlitz Audubon Center, 111 East Brown Deer Road, Milwaukee, WI 53217. Unit price: $15.00 each.
   - D. Audubon Adventures: Leaders Guide, Anne Schwartz, National Audubon Society, 613 Riversville Road, Greenwich, CT 06831.
   - E. Tracks: Teacher Guide, Christie Bleck, Tracks, P.O. Box 30235, Lansing, MI 48909.
   - F. Michigan State University Cooperative Extension Service 4-H Youth Programs, "Wetlands Affect You and Me," #4-H 1038.
   - G. United States Fish and Wildlife Service, Habitat and Issues Pac for Wetlands.

5. **Schools: (students)**
   - A. Wetlands Encounters: Presentations on Conservation and Ecology Using Live Michigan Wildlife. Dennis Laidler, Wetland Encounters, MUCC P.O. Box 30235, Lansing, MI 48909. Cost: $100.00.
   - B. Wildlife Discovery: Elementary Classroom Presentations on Conservation and Ecology. MUCC, P.O. Box 30235, Lansing, MI 48909.
   - C. Tracks Magazine, Christie Bleck, Tracks, P.O. Box 30235, Lansing, MI 48909. Classroom subscription available for $1.50 per student a school year.
   - D. Audubon Adventures, Fredrick Baumgarten, National Audubon Society, 613 Riversville Road, Greenwich, CT 06831.

6. **Outdoor Sports: (public)**
   - A. Michigan Duck Hunters Association Newsletter

7. **Outdoor Sports: (students)**
   - A. MUCC Youth Camp, MUCC, P.O. Box 30235, Lansing, MI 48909.

8. **Workshops: (all targets)**
   - A. Wetlands: A Workshop for Citizen Involvement, Pennsylvania Wetlands Workshop, Sierra Club, Box 606, Harrisburg, PA 17108.
   - B. Wetlands Protection Seminar, Pennsylvania Environmental Council.
   - C. National Wetland Symposium: Urban Wetlands and Riparian Habitat, The Association of Wetland Managers, Inc., Box 2463, Berne, NY 12023.
   - D. Wetlands of the Great Lakes: Status of the Science Base: Protection and Management Options and Needs, Association of Wetland Managers, Box 2463, Berne, NY 12023.
   - E. MUCC Weekend Courses: Become an Instant Naturalist, Beastly Behavior, Raptor Rendezvous Weekend Course, MUCC, P.O. Box 300235, Lansing, MI 48909.

9. **Manual: (legislative, regulatory, landowner)**
   - A. Urban Development Planning Guide, Hoosier Heartland RC&D, 5995 Lakeside Blvd. Suite B, Indianapolis, IN 46278. Cost: $17.00 each.
   - B. Wetlands: Mitigating and Regulating Development Impacts, the Urban Land Institute, 1090 Vermont Avenue NW, Washington, D.C. 20005-4962.
   - C. Wetland Protection Guidebook, Michigan Department of Natural Resources Land and Water Management Division, P.O. Box 30028, Lansing, MI 48909.
   - D. Wetlands Protection: A Handbook for Local Officials, Department of Environmental Resources, Commonwealth of Pennsylvania, Harrisburg, PA 17120.

10. Manual: (activist)

A. How to Cope With the Corps, Marvin Zeldin and W. Carlyle Blakeney, Jr. A citizen action manual for those concerned about the U.S. Corps of Engineers' environmentally destructive and economically wasteful water programs. Ecopress, P.O. Box 786, Charleston, SC 29402.

B. Michigan Wetlands - Yours to Protect. A Citizen's Guide to Local Involvement in Wetland Protection, Tip of the Mitt Watershed Council, P.O. Box 300, Conway, MI 49722.

C. A Citizen's Guide to Protecting Wetlands, National Wildlife Federation, 1400 16th Street NW, Washington, D.C. 20036. Cost: $10.25.

D. Wetlands and Water Quality: A Citizen's Guide to Wetland Protection, Lake Michigan Federation, 59 E. Van Buren Street, Suite 2215, Chicago, IL 60605. Cost: $6.95.

11. Newsletter: (legislative)

A. "Council Commentary: A Newsletter of the Council of Great Lakes Governors," Council of Great Lakes Governors, 310 South Michigan Avenue, Tenth Floor, Chicago, IL 60604.

B. "Focus: On International Joint Commission Activities," IJC Regional Office, 100 Ouellette Avenue, Eighth Floor, Windsor, Ontario, Canada.

C. "U.S. Water News," U.S. Water News, Inc. and the Freshwater Foundation, 230 Main Street Halstead, KS 67056.

12. Newsletter: (regulatory)

A. "Natural Resources Register," Michigan Department of Natural Resources, Office of Information, P.O. Box 30028, Lansing, MI 48909.

13. Newsletter: (NGO's)

A. "The Leader," published for affiliate leaders of the National Wildlife Federation. NWF, 1400 Sixteenth Street NW, Washington, D.C. 20036.

B. "Audubon Leader, News for Audubon Chapter Leaders," National Audubon Society, 7 North Meridian, Suite 400, Indianapolis, IN 46204.

C. "Lake Michigan Monitor," Lake Michigan Federation, 59 E. Van Buren Street, Suite 2215, Chicago, IL 60605.

D. "Great Lakes Reporter," Center for the Great Lakes, 435 North Michigan Avenue, Suite 1408, Chicago, IL 60611.

E. "Our Wetlands," Wisconsin Wetlands Association, 111 King Street, Madison, WI 53703.

14. Newsletter: (activist, public)

A. "Great Lakes Wetlands," published by the Tip of the Mitt Watershed Council, P.O. Box 300, Conway, MI 49722.

B. Letters and Alerts: "Endangered Species Act Reauthorization Bulletin," produced by Center for Environmental Education, 1725 DeSales Street NW, Washington, D.C. 20036. Sent by National Audubon Society, 645 Pennsylvania Avenue SE, Washington, D.C. 20003.

15. Brochures: (landowner)

A. "Michigan Wetlands: A Guide for Property Owners and Home Builders," Michigan Department of Natural Resources, Land and Water Management Division, P.O. Box 30028, Lansing, MI 48909.

B. "Wetland Regulations in Indiana: Before You Work in a Wetland. . ." Indiana Department of Environmental Management and Indiana Department of Natural Resources.

C. "Indiana's T by 2000: Lake Enhancement Program," Division of Soil and Water Conservation, Indiana Department of Natural Resources, FLXI Building, Purdue University, West Lafayette, IN 47907.

16. Brochures: (public)

A. "Recognizing Wetlands," U.S. Army Corps of Engineers.

B. "You may need an Army permit to work on your own land," U.S. Army Corps of Engineers, Buffalo District.

C. "What Endangered Resources Gives Lake County Cleaner Water, Flood Protection, Erosion Control, Wildlife Habitat, and More?," Lake County Health Department, Environmental Health Division, 3010 Grand Avenue, Waukegan, IL 60085.

D. "The Platte: A River Under Siege. Water development projects threaten to dry up the Platte River in Nebraska - an essential migratory stopover for 500,000 sandhill cranes," Platte River Campaign, National Audubon Society, 801 Pennsylvania Avenue SE, Suite 301, Washington, D.C. 20003.

E. "America's Endangered Wetlands," Department of the Interior, U.S. Fish and Wildlife Service.

F. "America's Wetlands: Our Vital Link Between Land and Water," U.S. Environmental Protection Agency, Office of Wetlands Protection, Office of Water, Washington, D.C. 20460.

17. Comics: (student)

A. "Welcome to Wetlands," U.S. Environmental Protection Agency, Region 5, 230 South Dearborn Street, Chicago, IL 60604.

18. Fact Sheet: (legislative, regulatory)

A. "Wetland Protection Coalition for Pennsylvania," Pennsylvania Environmental Council, Inc., 1211 Chestnut Street, Suite 900, Philadelphia, PA 19107.

19. Fact Sheet: (activist, public)

A. "Great Lakes Facts." The Center for the Great Lakes, 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.
B. "National Wildlife Federation Action Alert." National Wildlife Federation, 1400 Sixteenth Street NW, Washington, D.C. 20036.
C. "National Audubon Society: Putting Science to Work." National Audubon Society, Environmental Policy Analysis Department, Science Division, 950 Third Avenue, New York, NY 10022.

20. Fact Sheet: (landowner, business)

A. Fact Sheet: "Great Lakes Areas of Concern." The Center for the Great Lakes, 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.

21. Research Papers: (all targets)

A. "Wetland Plants and Plant Communities of Minnesota and Wisconsin." Steve Eggers and Donald M. Reed. Published by U.S. Army Corps of Engineers, 1987. U.S. Army Corps of Engineers, 1421 U.S. Post Office and Customs House, St. Paul, MN 55101. Cost: $5.95.

22. Reports: (activist, public)

A. "The Great Lakes Reporter." The Center for the Great Lakes, 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.
B. "Mid-Atlantic Wetlands: A Disappearing Natural Treasure." U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, National Wetlands Inventory Project, One Gateway Center, Suite 700, Newton Corner, MA 02158.

23. Reports: (regulatory)

A. "The National Wetlands Policy Forum Issues and Options." The Conservation Foundation, 1250 24th Street NW, Washington, D.C. 20037.

24. Reports: (NGO's, extension)

A. "Mid-Atlantic Wetlands: A Disappearing Natural Treasure." U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, National Wetlands Inventory Project, One Gateway Center, Suite 700, Newton Corner, MA 02158.

25. Reports: (legislative)

A. "Great Lakes Science Advisory Board: Report to the International Joint Commission." 1989 Report Highlights.
B. "Great Lakes Water Quality Board: Report to the International Joint Commission." 1989 Report on Great Lakes Water Quality, Executive Summary.
C. "Great Lakes Basin Plan: Great Lakes Basin Commission, Wetland Policy Plan and Environmental Impact Statement." August 1981.

26. Collateral: (all targets)

A. "Michigan Wetlands: A Heritage Worth Saving." Poster. Produced by the Nongame Wildlife Fund, Natural Heritage Program, Wildlife Division, Michigan Department of Natural Resources, P.O. Box 30028, Lansing, MI 48909.
B. "KEEP IT CLEAN: It's Our Air." Bumper Sticker. National Audubon Society.
C. "Save Illinois' Finest River: The Middle Fork." Bumper Sticker.

27. News Conference: (all targets)

A. DU News, Congress Passes Wetlands Bill. Ducks Unlimited National Headquarters, One Waterfowl Way, Long Grove, IL 60047.
B. National Wildlife Federation News, NWF Denounces Administration Delay of Wetlands Agreement. Public Affairs Department, 1400 16th Street NW, Washington, D.C. 20036.

28. Watch Programs: (activist, public)

A. MUCC's Wetland Watch Program, Michigan United Conservation Clubs, P.O. Box 30235, Lansing, MI 48909.
B. National Audubon Society Wetlands Watch Program, Great Lakes Regional Office, 7 North Meridian Street Suite 400, Indianaoplis, IN 46204, (317) 631-2676.
C. Wetlands Information Network, Wisconsin Wetlands Association, 111 King Street, Madison, WI 53703.
D. Water Watch Program: Adopt a Stream, Lake, or Wetland. Division of Water, 18 Reilly Road, Frankfort, KY 40601.

29. Hotline: (activist, public)

A. Report All Poaching. Michigan Department of Natural Resources, 1-800-292-7800.
B. U.S.E.P.A. Wetlands Protection Hotline, 1-800-832-7828.

30. Billboards: *No Examples.*

31. Projects: *No Examples.*

32. Advocacy Days: *No Examples*

Note: *This list was compiled by the Great Lakes Wetlands Policy Consortium and includes wetland educational materials in use throughout the Great Lakes Basin.*

The Last Page

I was in a quandary about how to end this guidebook. One thought was to write a lofty chapter meant to inspire the reader to take action on behalf of wetland protection. However, the title would have had to be "A Call to Action," and there are so many "calls to action" out there, the term has almost become a cliché. Instead, the decision was made to speak directly to you, the individual who is reading this guidebook, in the context of the most critical wetlands issue of all—that wetlands continue to be lost at an alarming rate.

Wetlands in this country were originally thought of as areas that bred pestilence—wastelands that were to be filled, drained, or otherwise converted. The United States federal government had several programs in the 1800's and early 1900's that subsidized the conversion of wetlands to other uses. In the recent past, we as a culture have come to realize the functions that wetlands provide in maintaining ecological integrity and the values that directly benefit people. Now, we live in a culture that, for the most part, at least says that wetlands are valuable and ought to be protected. State and federal legislators have enacted laws to protect wetlands. Even United States Presidents Jimmy Carter and George Bush have stated the importance of wetlands protection. However, despite good intentions, we are still experiencing the gross loss of wetlands in the face of state and federal regulations.

The factors that motivate individuals to get involved with working to protect wetlands, or any other resource, are as unique as the individuals themselves. Wetlands touch us in many ways throughout our lives. Some individuals are motivated by the fond childhood memories of playing swords with cattails or dipping their hands deep into the green gooeyness of frog spawn. These folks want to provide the opportunities for their grandchildren to have similar experiences. Other individuals seek to protect wetlands because of the enjoyment they derive from catching fish that grow fat on food produced in wetlands or from hunting game birds and animals that rely on the habitat that wetlands provide. Some individuals want to protect wetlands for the open space they provide—to preserve the simple opportunity to leave the hustle and bustle of the concrete world and enjoy the relaxing hustle and bustle of a vibrant and productive natural ecosystem. Still others want to protect wetlands because of their benefits to human health and welfare such as water quality maintenance and reduced flooding, siltation, and erosion. Some individuals are motivated to protect wetlands for the simple sake of the wetlands themselves.

Wetlands provide such a multitude of functions and values that everyone can find something there to motivate their involvement in protecting them. Wetlands continue to be lost at an alarming rate. It is critical that each individual get involved to reverse the trend. So, whatever it takes, motivate yourself and your friends and ensure your opportunity to experience and enjoy Michigan's wetlands. ▸ ▸ ▸

The Tip of the Mitt Watershed Council is a nonprofit corporation whose purpose is the protection of water quality and the promotion of the wise use of water resources. The Watershed Council promotes these goals through advocacy, education, water quality monitoring, and support for sound environmental policy.

For more information concerning the Watershed Council's activities, please call or write:

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